

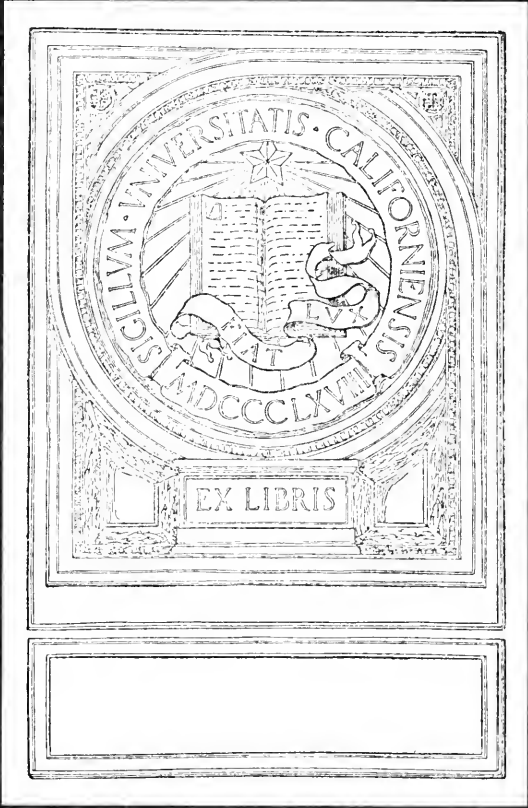
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AN ANALYSIS  
OF THE  
LIFE-FORM IN ART.



THE COMEDIAN. Museo Borbonico, XIII, tab. 21.

BY HARRISON ALLEN, M. D.,

*Professor of Comparative Anatomy in the University of Pennsylvania, Member of the Philosophical Society, etc.*

"I attribute the now backward state of the science of culture to the non-adoption of the systematic methods of classification familiar to the naturalist."—*Edward B. Tylor in Report of the British Association for 1868.*

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to view  
ALABAMA



## ARTICLE VI.

### AN ANALYSIS OF THE LIFE-FORM IN ART.

BY HARRISON ALLEN, M. D.,

*Professor of Comparative Anatomy in the University of Pennsylvania.*

Read March 6th, 1874.

#### GENERAL CONSIDERATIONS.

SECTION 1. *The Imitative.* We are informed on the highest authority\* that the language-character of primitive people is largely if not entirely composed of signs, which are either direct copies of familiar objects, or can be shown to be derivatives of them.

A language or letter-type and an art-form have thus much in common, although the processes are different by which they are evolved. To produce the letter-type, a series of abridgments must be practiced for a long time, with the result of simplifying the form by the elimination of non-essential attributes. Of course the resemblance to the original design is, by such treatment, sooner or later lost. To produce the art-form the rude outline becomes in time a reasonably faithful copy of the natural model, and from this realistic stage may pass under favoring conditions to an art-type capable of expressing the highest culture.

From among the innumerable objects surrounding man, those selected by him for delineation have been relatively few in number. He appears to have been influenced in his choice by his necessities, both real and imaginary. Among the first may be placed the objects he sought for food, and those he dreaded as enemies. Thus we meet with figures of birds, fishes and the grazing animals, as well as those of rapacious and venomous creatures. Next in order may be placed representations of the heavenly bodies and the signs of the elements, indicating his dread of the violent phenomena of the earthquake and thunder-storm, or his appreciation of the benefits of rain and favoring winds. Outlines of his own form are often of great antiquity.

\* Egypt's Place in Universal History, London, Chev. Bunsen, I, 333. Five Ancient Monarchies, etc., London, Geo. Rawlinson, I, 81. Dissertation on the Nature of, and Character of the Chinese System of Writing, Phila., 1838, XV, Duponceau.

They are for the most part, expressive of an anthropotized deity, or of himself in heroic action.

With such simple factors many secondary figures may arise by specialization of the details of the more complex. The human figure yields the head, and its separate parts, the eye, mouth, ear and limbs, particularly the hands and feet. The house with the gable and door is appropriated, each with its special significance; and as the use of weapons and household utensils become gradually adopted, a system of picture-signs is elaborated sufficient for the purposes of the people inventing it.

The difficulty of identifying the objects of such a system is apparent. Apart from the rudeness of the execution, we find objects closely resembling one another having diversive significances. Many figures, for example, are circular in form, which we cannot, from that fact alone, place together. Upon the monuments of Central America the circle is often used to designate both the human eye and the ear drum of reptiles. It also represents the moon,\* mammæ, and a variety of other things.

SECTION II. *The Inventive.* But many designs can by no force of ingenuity be included in the list, either of organic objects, of implements, or their derivatives. Some of these are inventions. This is a natural result of human effort. As earthen pottery could easily have been suggested by the gourd, or hollow stone, so the designs upon fictile implements may have arisen from the minor accidents occurring during manufacture. The unintentional imprint of the finger tip may have passed into the ornament adopted in the pottery of the stone age of Europe.† In the same manner the stamp made by the end of a hollow reed‡ may have originated the circular ornament, as the impress of a fibrous cord created the almost universal spiral border.

Excluding this group of objects, there yet remain many markings such as those seen upon early pottery, which cannot be so explained, and are probably examples of inventive design. Such are the herring-bone patterns and chevrons, and the numerous crossed lines, which do not form determinate figures. What the ultimate shapes would have been, originating from a basis so meagre, it is difficult to surmise. There are many elaborate examples of carvings among the South Sea Islanders in which the simple repetition of the lines above mentioned is never departed from. The result is pleasing, but without other interest.

\* According to Lt. Simpson (Reconnoissances in New Mexico, Texas, etc., 1850), the circle, among the Pueblo Indians, means the sun and moon,—the half-circle, clouds,—the zigzag, lightning, etc.

† Prehistoric Times, Sir John Lubbock, p. 469. It is asserted by Wm. Chaffers (Keramic Gallery, II, 1872, 185), that the gourd, pumpkin, or the fruits with a hard rind or shell, were in England the most primitive vessels.

‡ Antiquity of the Southern Indians, particularly of the Georgian Tribes, Charles C. Jones, Jr., New York, 1873, 459.

When an attempt to produce symmetrical designs upon the same supposed inventive basis is recognized, it is doubtful whether at some earlier stage of its development a class of natural objects had not been the original source of inspiration. In the later examples only of the ornamentation of the so-called Iron Age and the Saracenic styles, namely at the time of approaching decadence, do we find engrafted upon them imitations of the life form. In the former, it is of an animal type, and in the latter, it is a vine-like tracery.\*

But even here it is not by any means certain that imitation did not form the basis of design. Worsæ claims that the embellishment of the ornaments of the Iron Age was derived from the Roman taste,† while for the Saracenic, it would be very difficult to prove that at the time of the rapid development of this style, much was not unwittingly copied from the ancient monumental ornamentation constantly before the Moslem people.

The ease with which designs, either apparently or really the outgrowth of man's ingenuity, rather than direct copies from nature, run into set figures, endlessly repeating themselves, is very noticeable. The time at which a given people will adopt a pattern holds a direct relation to the tendency of their art. If the art inclines to invention, the patterns will appear early; if it inclines to imitation, they will appear late. We have seen that primitive man copies the animal forms about him; now of these the serpent is the only one which is facile to the purposes of the pattern-maker, if we exclude that exceptional accessory, the feather. As a result, the animal form is excluded from the arabesque, which is noted for its involved and apparently artificial ornamentation; and towards its decline when its typical expression has been modified, the vegetable form is introduced instead of the animal. It is, indeed, almost a necessity that the animal, or at least the footed form of it should be so excluded, both from the style of the Iron Age and Islam. It is interesting to compare these examples of traceries with the elaborate entwinings of Celtic ornament. The labors of the Celtic artist to construct monograms and mouldings from the animal form, ended in a tangle of eccentric lines; and in order to make the four-footed shape in any degree obedient, it has been stripped of all characteristic proportion and made as snake-like as possible.‡

\* The Arabian Antiquities of Spain. J. C. Murphy, 1813.

† "The characteristic ornamentation of the iron period are symmetrical windings and arabesques. As they not infrequently terminate in a rude representation of the head of some fantastic animal, these symmetrical winding ornaments have been regarded as the figures of snakes, whence they have been called snake ornaments. \* \* \* These occupy the place of what were originally leaves." J. A. Worsæ. The Primeval Antiquities of Denmark, Lond., 1849, 72.

‡ For a good example see Grammar of Ornament. Owen Jones, London, 1856, pl. lxiii.

SECTION III. *The ethnic value of Design.* Having defined two distinct bases for design, the natural and artificial, and concluding that the former is by far the more frequent, it would yet be unsafe to deduce the tempting theory that peoples may be graded by the choice of one or the other of them. Prescott\* truly says "coincidences naturally spring up among different nations under the same phase of civilization." May we not go farther and say that coincidences spring up as well under different phases of civilization? Tribes upon the same level may differ widely in their art methods, as well as in the love for the art performance. Wallace† found the Papuans excellent carvers in wood, yet living in a state little better than Andamanders—probably the lowest of men. The Tahitians when discovered by Cook were found using none but stone implements. Lubbock‡ considers that we have in this people a fair example of one living in an age of stone. Now among the remains of the people of the stone age in Europe have been found fragments of bone covered with etchings. In instituting a comparison of the art-products of these two races so far removed in time and location, yet restricted to the use of the same tools, we find striking contrasts. The Tahitian was content to repeat indefinitely a simple pattern composed of oblique lines, zigzags and lozenges, a thing over-wrought and tasteless, without a trace of the gracefulness of the life-forms which were so abundant about him; while the pre-historic designer drew what he saw so accurately that his limnings have scientific value. Prof. Owen§ informs us that some of the characters of the horse, employed by zoologists to distinguish this animal from its congeners, to wit: the small pointed ears, the bushy tail, the beard-like hairs in the stallion, are all faithfully represented in etchings on bones found in the cavern of Bruniquel. The same authority says that the reindeer is recognizable among similar pre-historic drawings. See also the deer (Fig. 1).

Surely, while we should make every allowance for the differences in motive, these two people were far removed in their inclinations as well as their ability to execute. But how could it be shown which was the more advanced? In no way we think with certainty, though conceding the accuracy of the statement, that picture-painting leads to alphabet making, a tribe early evincing a tendency to copy accurately from nature possesses a higher capacity for development than another in which such tendency is imperfectly manifested.

Many illustrations have been given by travelers of the dullness of perception of the savage to artistic forms, a defect brought out in strong contrast to the well-known

\* History of Conquest of Peru., I, 175.

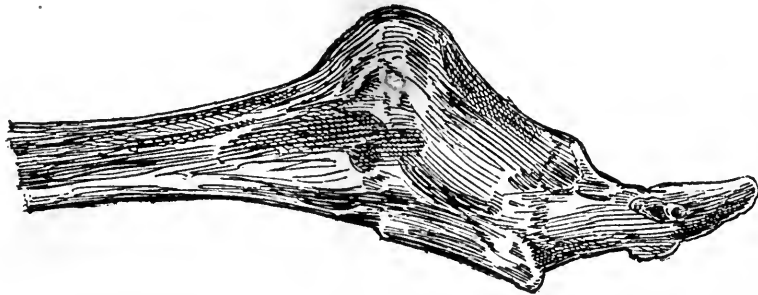
† The Malay Archipelago, A. R. Wallace, New York, 1869, p. 21.

‡ Lubbock, Ibid, 1865, 372.

§ Description of the Cavern of Bruniquel and its Organic Remains. Phil. Trans., Lond., 1869, Part II, 553. Ibid, Part I, 1864.

acuteness of observation he shows in the trail, and the remembrance of the human face. "Of the Alfouras (New Hollanders), Oldfield narrates that on being shown a picture of one of themselves, one said it was a ship, another a kangaroo, not one in a dozen identifying the portrait as having any connection with himself."\* Other examples to the same effect could be quoted. This peculiarity evidently could not apply to the Indians of the northwest coast of North America, who long before any European influence was possible among them, produced elaborate carvings of animal forms on pipes, tent posts and other objects.

Fig. 1.



Realistic pre-historic design. †

It is highly probable, that a tribe might be proficient in shaping a mass in the round, and yet be defective in appreciating it in the flat. Wincklemann‡ has given it as his belief, that "art began with the simplest shape and by working in clay, consequently, with a sort of statuary; for even a child can give a certain form to a soft mass, though unable to paint anything on a surface, because"—he continues, "merely an idea of an object is sufficient for the former, whereas for the latter much more knowledge is requisite." Herbert Spencer§ would lead us to the opposite conclusion. He traces the gradual evolution of sculpture from painting, and infers that in advancing from the rude outline on the wall, rock, or slab of wood or stone to a perfect statue, the painter has in time become a sculptor. We recall the fable of the Siscyonian potter's daughter, who drew her lover's profile on the wall, and therewith began the art of sculpture, and wonder whether after all it may not be true. We are in no position to decide which of the positions cited be the correct one, although we would not be surprised if both hypotheses prove correct within definite ranges of art-growth.

\* Lubbock (*l. c.*), 343.

† Mortillet *Matereaux pour l'Histoire de l'Homme* I, 73. Also, *Man's Origin and Destiny*. J. P. Lesley, Phila. 1858, 259.

‡ *Ancient Art*, I, 193, Wincklemann. Trans. by G. Henry Lodge, M. D.

§ *First Principles*, 165. Dr. J. T. Rothrock has informed us that he has actually traced such a transition among the art-products of the people of the northwest coast of North America, from the interior country westward to the sea.

In some parts of the world art may have arisen from the making of clay images, in others from outline drawings.

SECTION IV. *The Realistic.* Without entering into disputations of the origin of the art-form, it is more to our purpose to analyze those designs which have originated from models found in nature. The art-record of an autochthonous race—particularly that including the manner of representing animals and plants—is a fair subject for study, entirely apart from the origin or meaning of the outlines, or the bearings they may have on ethnological questions.

It will at once occur to the student that the natural productions of a country being given, we are in the best position possible to study its art. But such a proposition can have a very limited application. It is true that with an isolated people the images must of necessity be confined to the fauna and flora of the surrounding region; but if we are correct in the statement that a race with whom the artistic faculties are as yet dormant, who are driven (if we may so express it) to etchings or paintings by the combined forces of superstition and hunger, will secure but very general likenesses in their results. We may be satisfied, indeed, if we can assign even as much as the class to which the animal represented may belong. A fish, a serpent, a bird, a quadruped—these are seen, and was probably all that was intended. No distinction could be expected between serpents and serpent-like fishes, or between cetaceans and fishes. But when the shape is especially striking we are enabled to identify it more exactly. The kangaroo,\* the manatee,† turtle,\* shark,\* trepang,\* and star fish,\* have been repeatedly delineated by savages. Acquaintance with the remains of more enlightened races, such as the Aztecs, Incarians, Egyptians and Eastern Asians, yield numbers of highly specialized shapes which can with ease be assigned to the genus and even to the species intended. In illustration of this remark we may refer the student to the box-lid of Incarian designing figured by Dupaix.‡ Here can be recognized, through the veil of conventionalism shrouding many of the representations, figures of the lizard, alligator, capuchin monkey, opossum (Fig. 20) and bustard (Fig. 2). The Aztecs|| although less noted for their exactness of rendition, make the distinction between the tortoise and the turtle; and are particular in preserving the carination upon the scales of the rattlesnake. It must be remembered, however, that this people used the same character to form the shaft of the feather in their

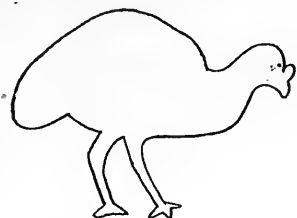
\* Lubbock, loc. cit., 347.

† Prehistoric Man, Danl. Wilson, London, 1832.

‡ Kingsborough Coll., IV. See also Dupaix, 2, 1, 4; Voy. Pittoresque et Archæologique dans la Province d'Yucatan pendant 1834 et 1836, F. de Waldeck, Paris, 1838, pl. xi.

|| Kingsborough, Ibid. IV, Fig. 23.

Fig. 2.



Bustard of Incarian design.

Fig. 3.



Didelphian Mammal of Incarian design.

delineations of plumage. Fishes are so well delineated on Chaldean remains, that two closely allied forms, the carp and the barbel, can be distinguished.\* In Egyptian art, noted for its realistic tendencies, we have animals so truthfully portrayed that naturalists have been enabled to identify many of them.† We also find well-defined realisms in the early stage of Assyrian art.‡ It is not our purpose to enumerate the examples of realistic art to be met with in the more familiar monuments of Greece and Rome; but may mention in passing the really fine representations of crustacea,§ (such as crabs and lobsters) and mollusca,|| in the Pompeian style.

The figures of animals and plants upon coins are often rendered with great fidelity. We may direct special attention to the tunny upon Spanish-Roman coins.¶

Palissy, in his *Rustic Figulines*, gives realistic examples of frogs, fishes, serpents, etc., while his representations of fossil shells from the Paris beds are so faithful, that in many instances the species can be given.\*\* In marked contrast to the average Polynesian designs may be mentioned the admirable figures of terns, cetaceans, and sharks, carved on a beam of a hut at Uji, one of the Solomon Group of Islands.††

SECTION V. *The Conventional.* (a.) General Remarks. By far the greater number of designs adopted by man are not of the realistic type. It is a tendency of the mind to cling to a model when it has been once removed from nature. The entire fabric of society is made up usages, the origin of which is either forgotten or ignored. "*Ubi homines sunt modi sunt.*" It is the deepest law of man's nature; whereby man is a craftsman and a 'tool-using' animal; not the slave of impulse."‡‡ Since art is in no wise exempt from the operation of such influences, we find

\* Rawlinson, *Five Ancient Monarchies*, I, 107.

† *Selections from Egyptian Ant.* in British Mus., Birch.

‡ Botta, *Mon. de Ninive*, pl. 95, A, fig. 17.

§ *Museo Borbonico*, Vol. IV, 29; Vol. VI, 38; Vol. XV.

|| Agancourt, *History of Painting*, Tab. 4, fig. 4.

¶ *Archæologia*.

\*\* Morley's *Life of Palissy*, Boston, 1853, I, 202. (Also, *Keramic Gallery*, Wm. Chaffers, I, pl. 60.)

†† *Jottings during a Cruise of the Curacoa*, Lieut. J. S. Brenchley, London, 1873, Frontispiece.

‡‡ Carlyle, *French Rev.*, II, 178.

mannerisms early appearing; and persisting to a degree varying with the general character of the people maintaining them. We have found that primitive people are realistic in their tendencies; early art being the purest so far as faithfulness to the model is concerned. We are informed by Dr. Brinton\* (who is speaking of the construction of language), that "fidelity to form is everywhere the test of excellence." This must be true of all systems dependent on the purity of types—whether it be of word-roots or of life forms. It is especially noticeable that nations just emerging from darkness into the light of civilization, when they have attained sufficient mastery over their material to satisfactorily produce what they intend, that their art is more vigorous and truthful than at any subsequent period.†

But in time, the figures are distorted by conventionalities, or encumbered with the attributes of an obscure symbolism. They no longer reflect the grace of untrammelled motion, but the formalities of national prejudice. In some phases of art, as for example that seen in Egypt, it is said development was stunted by the enactment of rigid laws. But no legal restrictions are needed to fix the customs of workmen. They are a law unto themselves. It would have been a more difficult task, we believe, to induce an Egyptian artist of the later dynasties to change his method by force of law than to restrain him within the familiar limits which had been handed down to him through many generations.

(b.) *Conditions Favoring the Conventional.* Glancing at the conditions which appear to favor the conventional, we find, first, a rapid growth in the arts of design without a corresponding development of the perceptive powers. Numerous examples of this fertile course of formalism are met with in Central America and in Buddhist India; secondly, the acceptance of a given form as a symbol; thirdly, decadence in art: of the last mentioned we have two varieties, either an abrupt descent from excellence incident to the influence of the schools, in which the style of the master is lost in the mannerism of the disciple, or where art becomes tainted by the whims of uncultured patrons; fourthly, the gratification of the æsthetic sense at the expense of the form. This is easily derived from the preceding, and is either characteristic of it or is indicative of its approach.

(c.) *The Fantastic.* Thus when we see a sphinx delineated in the cinquecento style (it is furnished, let us say, with an enormous tail volute, the basis of which is the acanthus leaf and stem), we are convinced that the artist has deliberately deserted his model for one of those "hazardous caprices sure to please." Equally

\* Myths of the New World. D. G. Brinton, M. D., New York, 1863, 8.

† Layard. Nineveh and its Remains, II, 222. The author makes the same application to Egyptian Art, p. 223.



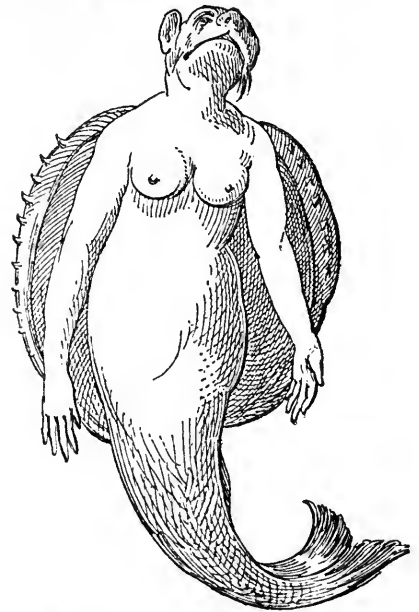
beautiful is the combination of the man and dolphin, from the ruins at Athens\*\* (Fig. 4), and that of the woman and fish of the popular myth of the mermaid. We copy a curious figure (Fig. 5) of a mermaid-like outline (possibly its prototype), which is suggestive of a strictly natural origin of this form.†

Fig. 4.



Man-Dolphin, from Athens.

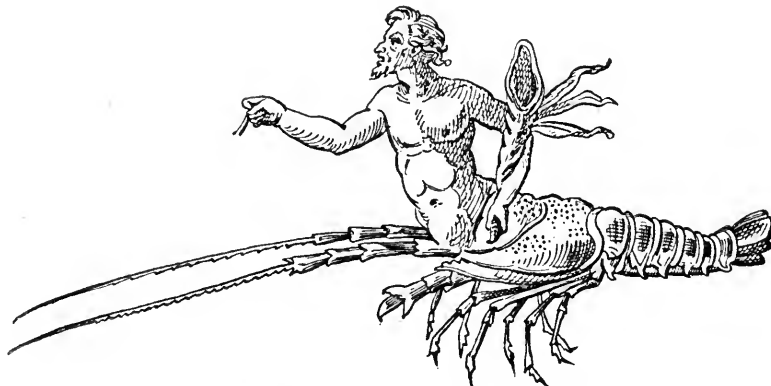
Fig. 5.



Mermaid-like form, after Richter.

It is easily seen that with the changes incident to the development of an æsthetic taste, conventionalities will present many varieties. With luxurious people they merge into travesty and caricature, where may be grouped those fantastic figures derived from Greek symbols, seen in Roman and Etruscan Art‡ [Fig. 6].

Fig. 6.



Fantastic form of Pompeian design.

\* Antiquities of Athens, I, Chap. ix, pl. 22. Jas. Stuart, Lond., 1762.

† Ichthyology, Joh. G. O. Richter. Leipzig, 1754, pl. 1.

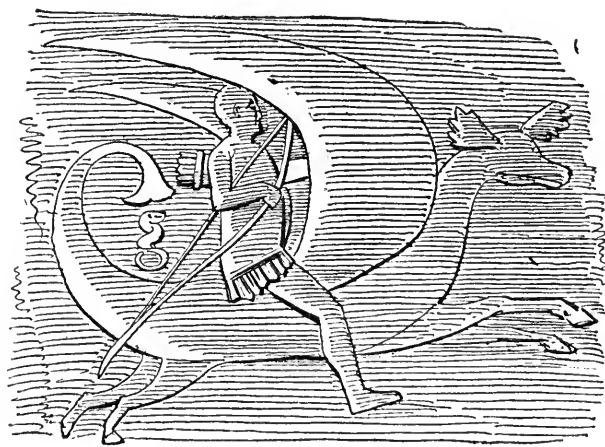
‡ Mus. Borbonio, X, tab. 8.

(d.) *Ethnic significance of the "Fantastic."* Selections of objects for their beauty, or for their power of effecting fanciful combinations indicate an elevated position of the people so employing them. Their appearance in the record is evidence of improved facility in execution (hereby implying an advance in the use of implements), since a primitive people are too much occupied with the vulgar necessities of living to perpetuate a design for its shape alone.

What is vaguely called "grotesque" and "fanciful" are often the "reading of our own ideas into the labors of others." We may, without violence, assume that a people who, while portraying animal and vegetable forms with a conscientious regard to detail, occasionally produce a beautiful shape of a more or less whimsical character, are rapidly attaining perfection in design. Were all other evidence wanting to prove the culture of the Peruvians under the Incas, the single figure of a deer, whose body furnished with wings terminates in the tail of the dolphin\* (Fig. 7), would in our judgment do much toward re-establishing the claim. The representation of Quetzacoatl of Aztec† (Fig. 9), in its boldness and grace illustrates the same idea. We have found the Incarians prone to realisms; and it is worth while in passing to institute a comparison between this "half-civilized" race, and the Chinese and Japanese. Both the realistic and the fantastic tendencies of the Incarian is found in the Chinese art. We find here, copied with slavish fidelity, figures of fishes, birds and mammals, side by side with monstrous "grotesques."

We may say, in conclusion, that, should the above proposition be received, its application to the study of pre-historic remains may ultimately prove useful.

Fig. 7.



Composite of Incarian Design.

\* Kingsborough, Coll. II, Codex Vaticanensis, pl. 44.

† Kingsborough. Dupaix.

‡ Kingsborough, IV. Dupaix.

Fig. 8.



Composite of ancient Mediterranean design. (\*)

Fig. 9.



Composite of Aztec Design.

(e.) *The Grotesque.* The grotesque forms, so-called, are always inventions or rather composites suggested by natural models. They conform to our standard of what is ugly or bizarre more by accident than intention. Had the conceptions of the designers of the startling and hideous been in consonance with our own, such forms as the toad and the bat—those traditional sources of metaphors of the ugly—would be more frequently seen. But these animals are rare in art. The toad occasionally makes its appearance in Aztec and Peruvian records, while the bat is met with, so far as we can recall, but in four instances,† and each of these is simplicity itself compared to the creations from their own art resources. Had the native Mexican sought in nature for examples of ugliness, he must have been a poor observer to overlook the *Centurio*‡ (Fig. 10), whose claims to a position among the ugly things of this world must be conceded

Fig. 10.



Centurio.

(f.) *Tendencies of the Conventional.* Let us glance at some of the common

\*Inghrami, II, pl. 138.

†Galindos, account of Mon. about Lake Yashau, *Archæologia*, xxv, pl. 60; Kingsborough, IV, Dupaix; Bollaert, *S. Ant. of A.*, 1860. Frontispiece; Waldeck, F. de. *l. c.* See also Whipple, q. v., p. 45.

‡Voyage of the *Sulphur*, *Mammalia*, pl. 7. Brasseur de Bourbourg identifies a profile serpent-head as a bat's. See "Manuscrit Troano," 1859, 209.

tendencies of conventionalisms before passing to the considerations of the mythic and symbolic forms.

One of the most common features of conventionalisms is to repeat *the normal lines of the model*—the proportions being accurately preserved. We notice this in Assyrian art, where the tendency to multiply and make prominent the lines of the muzzle and brow of the lion—their favorite animal—is very noticeable (Fig. 11). Extravagant at best, it becomes eccentric to a degree when applied to other animals (Fig. 12). In the front-faced view of the Egyptian figure\* (Fig. 13), we find the entire space between the eye—and the brow occupied by a number of lines drawn parallel with the edge of the upper eye-lid, whose multiple they represent. Examples of the same tendency exist in some rock markings of North America. As another example we may refer to a pre-columbian mask† (Fig. 14), where such lines pass entirely round the eyes and mouth. See also Fig. 1 of the Aztec skull variants, (q. v.) for multiplication of the malar line.

Fig. 11.



Assyrian lion-head. (‡)

Fig. 12.



Assyrian ass-head. (§)

Fig. 14.



Pre-Columbian mask, from the Mosquito shore.

Fig. 13.



Full-faced Egyptian head.

\* Birch, *l. c.*

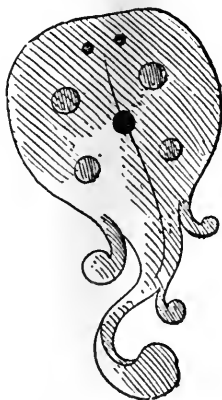
‡ The Monuments of Nineveh. A. H. Layard. Lond., 1829. pl. 10.

† Archaeologia. Chas. Rogers, VI, pl. 11, 107.

§ Ibid. pl. 152.

Another, and a very beautiful class of conventionalisms result from an opposite process, viz., *by diminishing the number of the lines of the model*,—thus preserving all that is essential to the artistic form without violence to nature. The figures of the torpedo\* (Fig. 15) on some of the Greek vases may be mentioned in this connection. Nothing can be more simple than the lines composing this pleasing form—yet all the essential parts of the animal have been retained.

Fig. 15.



Torpedo from Greek amphora.

(g.) *The Symbol.* The most interesting conventionalisms, however, are those arising from a symbolic basis. The forms of ancient symbolism with which we are most familiar, are those belonging to the history of the Indo-Germanic branch of the human race, including some engrafting received from the Chaldean stock.† Since much of the interest in studying symbols is inextricably connected with the meanings originally attached to them, we will begin our remarks with the consideration of one concerning which much is known—the griffin. We made the acquaintance of this form comparatively late in its development, when it is reasonable to suppose that it may have undergone many modifications in form, if not in significance. The griffin has been traced to an Assyrian source,‡ whence it appears to have passed westward to Greece, and southward to Persepolis and Babylon, if indeed it may not have passed from the latter place primarily. M. Roulin§ endeavors to trace the griffin to an Indian origin, and asserts that its natural prototype is the tapir (!) (Fig. 16). We are informed by Dennis,|| that the Etruscans symbolized

\* Die Gattung Torpedo in ihren naturhistorischen und antiquarischen Beziehungen. J. F. M. v. Olfers, Trans. Berlin Academy, 1831, pl. 3, fig. 3.

† Rawlinson, *Five An. Monarchies*, etc., *l. c.*

‡ Layard, *the Monuments of Nineveh*, *l. c.*

§ Roulin, M.—*Ann. Sci. Naturelles*, 1829, vol. XVIII, pl. 5.

|| Etruria, I, 220.

Fig. 16.



Roulin's Tapir-Griffin.

destructiveness in the griffin, and that its several parts were representative of aërial with terrestrial rapacity. After the same manner the hippichthys, was held to be a union in the flesh of the earth and the sea—an amphibious art-form denoting a soul in a state of transition. However much the spirit of speculation may enter into our attempts to interpret such symbols, of this, there can be no doubt, that many of them in their purer forms clearly expressed complex ideas.\* Ferguson in speaking of the Turanians (*i. e.*, the central western Asian races), remarks: “With them it is not sufficient that a God should be colossal, he must be symbolical; he must have more arms and legs, more heads, than common man; he must have wings and attributes of power, or must combine the strength of a lion or a bull with the intellect of humanity.” “We cannot,” says Montaigne, “couple common faculties, such as our own, with the other faculties that astonish us, and are so far out of our sight. Therefore it is, that we give such savage form to demons; and who does not give Tamerlane great eyebrows, wide nostrils, a dreadful face, and a prodigious stature, according to the imagination he has conceived in us, by the report of his name?” Here is the motive which accounts for much apparent extravagance. As closely allied to the foregoing, may we not find in the wild and otherwise almost expressionless combinations of the Aztec paintings a faint meaning suggested by clearer methods? The curious composition of a death's-head and insect *might* resolve itself into a symbol of the leaf-devouring locust.† (Fig. 17).

Fig. 17.



Composite of Aztec design.

\* Hist. of Architecture, Ferguson, I, 51.

† Codex Vindobonensis, Kingsborough Coll., pl. 1.

The hypothesis of Ehrenberg\* that the Sphinx-head was derived from that of the baboon is ingenious if not in full harmony with the theory of Birch† that this mystic form is of Indian origin—and is part of the primeval stock of “dæmons of terrific form, who roam as bears and lions through the vast forest, or rest in the mountain’s caverned sides.” The figure of a leonine monster, common among Chinese wood-carving, is undoubtedly a lion, as can be seen by comparing it with the *Sinhas* of the Hindoo-Buddhistic ornament. It is a noteworthy fact that the flank of this image is marked by a stellated figure, almost identical with an ornament similarly placed in the Hindoo *Sinhas*, in the Assyrian lion (Layard, pl. 131), in the Moslem animal figures (Murray, xlvi), and in the Egyptian lion (Lepsius, A, vol. II, pl. 89).

(h.) *The Zoo-Myth.* It would be an error to suppose, however, that “monsters,” either by addition of parts like unto themselves, or of combinations of diverse natures, are of necessity symbolical. Many of these have doubtless originated through misconception of the shapes of little known animals.

What we may term fabulous animals in the proper sense of that term, that is those drawn up from fabulous accounts,—may be placed in this division of conventionalisms. We can readily explain their appearance in art by one word—ignorance.

A migrating people no longer content with the products of their own land, and endeavoring to secure advantages by incursions into another, would naturally encounter many novel forms of life. The more striking of these would be accredited to the miraculous or the monstrous. Shapes when thus once established, might persist for an indefinite time and serve in their turn to furnish models for yet another series. When we recall the narrow limits which sometimes separate faunæ, as for example the deep channel of but fifteen miles in width, which flows between the islands of Bali and Lombok, and serving as the boundary between the Indo-Malayan and the Austro-Malayan faunæ,‡ or what is better known, though less distinctive, the narrow Dardanelles, which divide the Asian from the Mediterranean life,—it is a matter of surprise that figures of exotic forms are not more frequently seen in the primitive art record.

What will apply to the invader is true of the invaded, conceding of course that a people thus encountered, is sufficiently advanced to embrace the opportunity of enriching its own designs. In an Esquimaux drawing in the National Museum of Washington, we find recognizable figures of the reindeer, along side of a monstrous outline significant of nothing that is on the face of the earth, or in the waters under

\* Ueber den Cynocephalus und den Sphinx der Egyptien, etc., Trans. Berlin Acad., 1834.

† Birch, Egyptian Antiq., I, 226.

‡ The Malayan Archipelago, Wallace, 45.

the earth. Lubbock,\* in speaking of similar outlines, ascribes their origin, very happily we think, to the figure-head of some vessel which had been seen by the native artist.

The ship itself may become a part of the mythic system, if we are to credit the following,—which is thought to refer to the first remembered appearance in the Euphrates, of ships from a civilized country, and of the introduction into Chaldea of the arts of civilized life:† “In the first year there appeared an animal destitute of reason, by name Oannes, whose whole body was that of a fish with feet also similar to those of a man.\*\*\* This being was accustomed to pass the day among men, \* \* \* and when the sun was set \* \* \* retired again to the sea, and passed the night in the deep.” We have abundant evidence that ships have at all times impressed coast-haunting tribes with wonder. The Aztecs‡ called the vessels of Cortez “water-houses,” and faithfully recorded after their fashion, every particular concerning them.§

As an illustration of the difficulty encountered by an artist in representing an object with which he is not familiar, we may cite the following:

It is well known|| that when the Spaniards under Cortes landed on the coast of Mexico, they were subjected to delays prior to their march to the capital. During this time some of the natives hovering about the invaders, were observed sketching. Fac-similes of these drawings are to be found in the Kingsborough Collection.¶ We find among them figures of the soldiers, priests, ships, horses, etc. The artists had apparently no difficulty in representing the warrior and the priest, for they differed from their own people only in color and costume. But the horse had evidently puzzled them. It was a novel shape, and their conventional lines were not mobile enough to receive it. It was natural, under the circumstances for them to represent it as a puma (Fig. 19), for this figure they had repeatedly drawn. This puma-headed horse might well have stood for some such expression as the following, had written language been employed: “The soldiers are in part mounted upon strange animals, whose necks and tails are furnished with long hair, and whose single toe-nail of each foot is encased in a stone-like shoe.” Afterward the horse was more

\* Prehistoric Times, p. 570, new edition.

† Prehistoric Nations, Baldwin, p. 186.

‡ Conquest of Mexico, Prescott, I, 304.

§ Sir Walter Raleigh, following the prevalent belief of his times, thought that dog-headed men inhabited El Dorado, *i. e.*, the Valley of the Amazon. Humboldt says of this statement, “that it was a gigantic lie.” Kingsley (Miscellanies, Ticknor & Fields, 1859, p. 31) remarks that they were probably Indians, wearing animal masks, probably from the Aguara-head.

|| Conquest of Peru, Prescott, I, 304.

¶ Codex Reminensis, pl. 32.



Fig. 19.



Fig. 20.



Mounted Spaniards of Aztec Design.

accurately drawn (Fig. 20).<sup>\*</sup> Now let it be supposed that the Spaniard immediately after this incursion had withdrawn from the coast—is it not possible that the puma-headed figure would have passed into the traditions of the Aztecs as a fabulous visitor? Nor is it asserting too much to say that under similar circumstances a Centaur-like myth might have thus sprung into existence; for we are told that the horse excited great alarm in the minds of the Peruvians upon witnessing the Spanish cavalry dismount; “these simple people thinking that the rider and the horse were one.”<sup>†</sup>

(i.) *The Errors of Naturalists in depicting Animals.* In proof of the manner in which figures of exotic animals may undergo modifications, even when drawn for zoological purposes, we may allude to the history of the Walrus as given by Gray<sup>‡</sup> (Fig. 21). Surely this figure is no more than the merest dream-portrait of *Trichetus*,

Fig. 21.

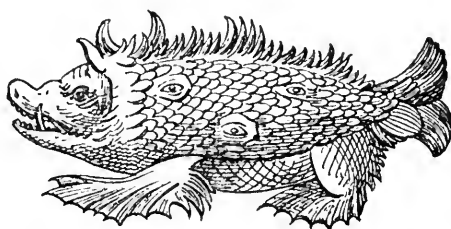


Figure of Walrus, after Olaus Magnus.

yet it was at one time, no doubt, a fair diagrammatic expression of what was known of its proportions.

Parè§ has given us an illustration of a combat between an elephant and

<sup>\*</sup> Codex Bodleianæ, Kingsborough Coll., pl. 41.

<sup>†</sup> Conquest of Peru, Prescott, I, 254.

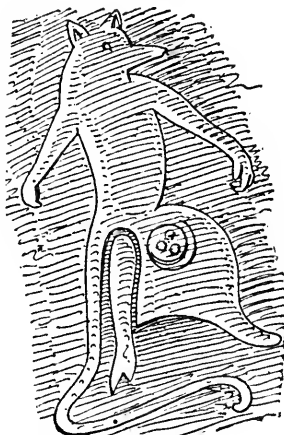
<sup>‡</sup> Attitudes and Figures of the Morse, J. E. Gray, Proc. Zool. Soc. of Lond. 1853, p. 112.

<sup>§</sup> The works of that famous surgeon, Ambroise Parè, (Trans.) London, 1649, p. 45.

a rhinoceros. The animals are placed in most amusing attitudes. The elephant with tusks pointing upward as in the above figure of the walrus, advances with lowering head, using his proboscis as a weapon of offense.

The description and figure of the opossum\* (as we interpret it) given by the

Fig. 22.



Didelphian Mammal from Incarian design.

same writer, is worth mentioning in this connection. The absurdity of the elaborate figure of Gesner, from whom Parè quotes, is only equaled by the fidelity to the idea preserved in the rude and unembellished outline (Fig. 22), of the opossum-like animal drawn by a native artist. One of the most curious of all mal-constructions is found in Aldrovandus.† It is the figure of a saw-fish, given as a cetacean, with the saw in the position of a horn projecting forward from the middle of the head (Fig. 23). It is an easy task to explain these absurdities. They are all dependent

Fig. 23.

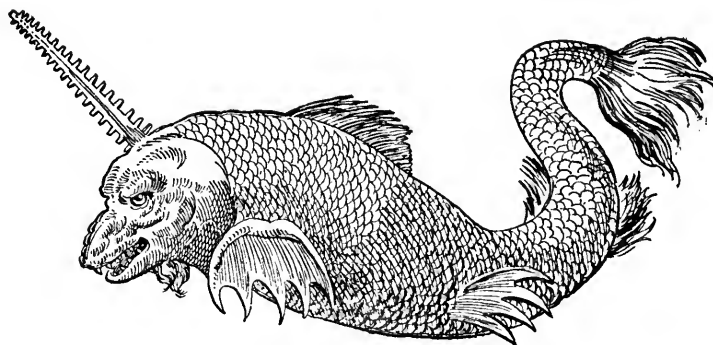


Figure of Saw-Fish, after Aldrovandus.

upon attempts either to reconstruct an entire figure from a fragment,—or in endow-

\* Kingsborough Coll., IV, (Dupaix), (Incarian box-lid.)

† Aldrovandus, Pisces, p. 695.

ing an animal which is of unknown habits with functions in harmony with those familiar to the writer. The walrus and elephant tusks, and the saw-fish's maxillæ doubtless found their way to European museums long before the illiterate traders who brought them, could give any other accounts than those into which their imagination largely entered. The naturalist would draw the tusks of the walrus and elephant in the position of the wild boar, the only animal he had ever seen which possessed such appendages.

Akin to the above are the numerous examples which crowd the zoological record of errors of identification of actual forms. For the explanation of the fact that Aldrovandus\* described the shriveled skin of a plagiostomatous fish as the remains of a dragon (Fig. 24), we have only to look over the distorted specimens

Fig. 24.

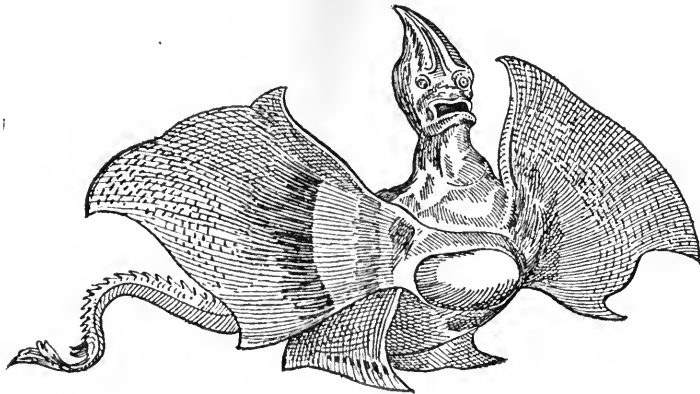


Figure of Ray, after Aldrovandus.

of every ichthyological cabinet. We could fill many pages with this kind of illustration, but will content ourselves with referring to one of the most curious of them. Leibnitz, who was gifted with a marvelous intellect in which it has been said, "mathematics and moral philosophy, history and philology for the first time found a common seat," was so far led astray as to describe the bones of a rhinoceros as those of a unicorn, and to attempt to restore them in normal position (Fig. 25). The tusk in this figure evidently did not belong to the rest of the skeleton. "This skeleton of the unicorn was found," says he, "with the hind part of the body reclining as is usual with animals, but the head elevated, bearing on the front a long extended horn of nearly five cubits, of the thickness of the leg of a man."† That a fossil unicorn had existed in past times, when, in common with all cotemporaries, the author believed that a unicorn was to be found in Abyssinia, was after all a natural

\* Aldrovandus, *Pisces*, 316.

† *Physicam Generalem, Chymiam, Medicam, Botan. Histor. Natur. etc.*, 1778.

Fig. 25.



A restoration of the Unicorn, after Leibnitz.

inference. It is the first step that costs ; once having accepted the existence of the unicorn, the rest was easy.

Even when an actual animal is described,—often figuratively, never faultlessly,—is there not a wide margin left for error to roam over? In a scientific sense, the hippopotamus described by Herodotus,\* as having the hoof of an ox, and the mane and tail of a horse, is of course absurd; in an artistic sense, a quadruped thus hoofed and maned would be simply monstrous. The intention of Herodotus to convey the notion that the hippopotamus was an animal combining ox and horse-like characters was certainly successfully carried out by the use of figurative expressions, which, so far from suggesting a portrait of the creature itself, would directly mislead.†

\* Swayne's Herodotus, 50.

† There is a curious example of this kind of misinterpretation in Retsch's outline drawings of Goethe's Faust. In the first scene with Mephistopholes a poodle (which contains, as a "nucleus," the essence of the demon) undergoes transformation.

"FAUST. Er hebt sich mit Gewalt !  
Das ist *nicht* eines Hundes Gestalt !  
Welch ein Gespenst bracht' ich ins Haus !  
Schon sieht er wie ein *Nilpferd* aus,  
Mit feurigen Augen, schrecklichem Gebiss."

Retsch draws as appearing before the eyes of the astonished Faust, not a hippopotamus. (*Nilpferd*) but an enormous poodle.

SECTION VI. *The Dragon.* The myths which have been grouped under the name of "dragon," are of such diverse character, and have been through so many ages associated with popular fancies, that we have thought it of interest to give some account of its possible origin and meaning.

The Asiatic dragon is evidently a very different form from the European. At least the "fabulous animal" of Chinese and Japanese ornament, is based apparently on the salamander type of body, with bird-like feet. This is well shown in recent examples of this design upon Japanese bronzes. The heads are more nondescript, and are furnished with some piscine characters, such as barbels, and an outline suggesting the catfish-like fishes found in the waters about Japan. The early form of the European dragon, according to Aldrovandus (*l. c.*), is probably based upon the lizard type. It is scaled, and has a well-marked lacertilian body, and, it may be a mammalian head. The tail and neck are often those of a serpent. The artistic interpretation of the dragon varies from the realistic forms of Durer, who, in his *St. George*, favors us with a very fair zoological figure of a lizard, through the humanized bat-winged outlines of Giotto, to the curious compound of owl and serpent of Lucas v. Leyden, and the equally odd combination of man and insect of Martin Schoen. There is no doubt that much of this kind of work is purely whimsical. It is quite impossible to surmise with any nearness to truth what the models were like from which they sprung. The combination of parts sometimes suggests that rapacity was always intended; and at least in the latter forms of the myth it has been the symbol of oppression and cruelty.

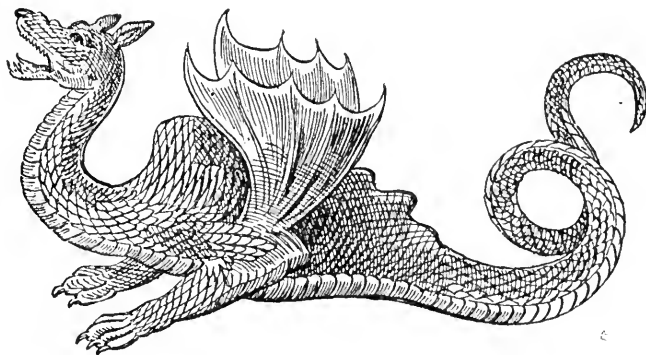
In a very curious pamphlet\* preserved in the library of the Academy of Natural Sciences of Philadelphia, an elaborate effort is made to prove that the dragon was extant at the latter part of the last century. From a vast amount of evidence the author favors us with the following description of this animal: "The dragon is from eight to nine feet long, rarely more. Its color varies; commonly red, it is at times of a black or ash color. The heads of some individuals are crested, and the jaws are furnished with sharp teeth. The mouth can be opened to an extraordinary extent. The wings, which are without feathers and resemble those of a bat, maintain flight with some difficulty. The body is covered with scales of such strength that they have resisted balls. The strength of the dragon is such it can engage the eagle and the elephant to advantage. The tail is no less feared than its mortal bite. It is used with success in squeezing the prey, or striking it when thrown to the ground."

The congruity of parts expressed in such a creature, which is "neither fish, flesh, fowl, nor good red herring," was probably prominent with those who have a lingering

\* On the History of the Dragon. C. I. M. Dorfenille.

belief that the origin of the dragon is to be found in the remnants of the paleozoic world "where," in the language of Thackeray, "mighty monsters floundered through the ooze—and dragons darted out of the caves and waters before man was made to slay them."\* Mr. Waterhouse Hawkins, the well-known scientific artist, entertains the belief that the dragon is a reminiscence of an extinct reptilian shape, noticeably the Pterodactyl type. We cannot agree with him in such a conclusion. The form of the dragon is not a fixed one, and its varieties can better be accounted for by reference to familiar models than in seeking figures among such absolute novelties. Amid all the combinations making the dragon, the idea is cramped and limited. He is a mere piece of patch-work—a monster by addition—each portion, when dissected, turns out to be an old acquaintance—here a bird-foot, there an owl's head, or a serpent's tail. Indeed who could expect man to have reconstructed to such suggestive forms the impression of a Pterodactyl, possibly received from a fossil! Surely after the blunder of a Leibnitz, we may well declare the average man of the Middle Ages, if not of an earlier time, disqualified to testify on such a topic. To say that by coincidence man may have invented a "fabulous creature" like unto those that have lived in the past, is to make an assertion which cannot be supported. Man has never invented a single artistic figure. He has analyzed and infinitely re-arranged the integers of organic form, but he has never in all his vagaries or in his groupings after truth struck out a new form.

Fig. 25.



Dragon, after Aldrovandus.

\*Prof. E. D. Cope (Synop. of the Batrach. and Reptilia of N. A. Trans. Philo. Soc., Phila., 1870, 182) remarks that the "restored figure of Mosasaurus is not badly represented by old Pontoppidan's figure of his sea-serpent, and that in this group of reptiles we almost realize the fictions of snake-like dragons and sea-serpents in which men have been ever prone to indulge."

## PART II.

## THE STUDY OF VARIANTS.

SECTION I. *General Remarks.* Mr. Tylor in his work on *Primitive Culture* has treated of the several articles composing the armamentarium of early man as species. Thus the hatchet is a species, so are bows, arrows, etc. We have taken a hint from this and believe it to be instructive to call the forms of life of the art-record "species." The range within which they are encountered may be termed the limits of distribution, and the forms in this way included, as the faunæ or floræ respectively. The Asio-European lion, for example, has a distribution from Chaldea to Western Europe. Its varieties have established themselves along the route of man's migration and are seen to vary in style from the Chaldean to that of the modern stone-cutter. It is convenient to push the comparison between an archæological and a zoological process yet farther and name the ways by which a given species may be represented as *variants* of that species, adopting a term already employed by Bunsen in his researches among the Egyptian ideographs, and by Abbe Brasseur de Bourbourg among the Aztec.

This history of an art-species is in some cases almost as definite as that of the people of whose remains it constitutes a part. It is evident, therefore, that the study of variants should go hand in hand with chronology. With it, we can trace with ease their mutations and prove the order of their succession; without it—the premises falsely assumed—imagination may select the forms and specious reasoning determine their positions.

But are we on that account to restrict our studies to cultured races? No, if we can find standards of comparison among the forms themselves; and as the zoologist seeks for standards by which to classify living objects, so the student of art, we hope to show, can secure in the art remains of a given people certain *types* of construction. These may be in harmony with chronology; and if so, their value is doubtless increased. But even without this aid we believe they can be made interesting. In proportion as the material for the elimination of such types is more or less complete, so will the types themselves be more or less accurate, a conclusion again in exact harmony with the results of the naturalists' method. In a word we propose to study the animal form in art as though it were a natural form, employing chronology, when we can, as an accessory of acknowledged value.

In studying variants we propose the use of the following terms:

The primitive designs found in painting, etc., we term *primals*.

The final forms resulting from a series of variants starting with the primals we term *ultimates*. By divergence of variants from the primal stock (one to the letter type, and the other to the realistic) we must have to every primal two ultimate forms.

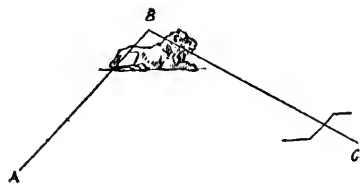
By a *radical* is meant that figure which preserves the essential lines of a natural series of variants. It is best seen in forms leading to an ideographic system. The difficulty of distinguishing a primal from the equally naked and unsuggestive letter-ultimate is apparent, and without aid from another source is often impossible.

Radicals will necessarily vary according to the method of execution. The parts which are produced with the greatest ease are naturally those which persist in the process of reducing a complex form to its simplest expression. In drawing, stress will be laid on the *lines*; in moulding, the lines will be subordinated to the general figure, as shaped by the figures. The picture radicals will thus differ from fictile radicals, as also will architectural and numismatic radicals. Neither should it be forgotten that to the females of many tribes has the work been allotted of ornamenting the pottery and other articles, while the recording of exploits, etc., has been reserved to the males.

In presenting a number of variants from a few types of life we propose the following method:

A radical will be taken, which has been developed through many variations from, a primal form. The time required to have accomplished this is, in every instance, unknown. We must assume from what we see in the art of savages that in figure-making, as in everything else of man's creation, there has been an ever-active though gradual process of evolution at work; and that in the primals of an art series this has but begun. Neither can we form any idea from contemplating the ultimate expressions of forms belonging to old and cultured races what their crude primals may have been. Such imperfections of the art-record compel us to take the radical as it is presented and trace from this the most probable ultimate rather than to take the ultimate and trace it back to its radical.

Let us accept A to be a primal, and B an ultimate, and C a radical. We cannot



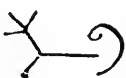


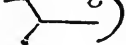

conceive the Egyptian lion at B, to have sprung at once into a realistic ultimate, but rather that it has been evolved from the unknown primal at A. And we infer that C is a letter-type abridgment of B, a descent from the completeness of the



artistic figure, but nevertheless a sequence of it. The natural order of the comparison would be from B to C, the chronology being given. But we think it may prove more interesting in reviewing the entire range of art—in many portions of which we have no literary complement—to present the problem and seek the solution rather than to give the solution and create the problem.

From the study of variants, the following conclusions may be drawn :

(1.) That the conditions determining the forms of variants must be exceedingly diverse. A full series may be confined within the space of a sheet of manuscript—as is often the case in the Dresden Codex, or (as may be seen) in the ornamentation of a batch of earthen pots of the same baking. On the other hand, a series may extend through the entire art-range of a given people—and taken many years to have completed.

(2.) That it is necessary to remember that in some phases of variants, a single feature will be selected from a complex form and serve as the basis of a distinct series of changes. Thus the curve of the open mouth of the serpent seen in profile, and the rattle at the end of its tail, are often dismembered from the rest of the trunk, as though they were parts of a mosaic, and allowed to exist separately. The occurrence of this dismemberment proves that the type is not concrete. One cannot imagine the Egyptian sign  (priest) being rendered by either  or  for one is as essential to  the other as a cross is to the  letter t. When, in speaking of a form, like the genus Hydra, which permits self-division, a likelihood exists of the severed parts surviving, a low type of organization is thereby implied.

(3.) As one in studying the water-lily, finds the petals gradually turning into stamens as he passes in observation from the margin to the centre of the flower, so we find strange transitions occurring in the many-times repeated objects of early art ; transitions so strange, that unless we carefully observe them we would have declared them to be improbable.

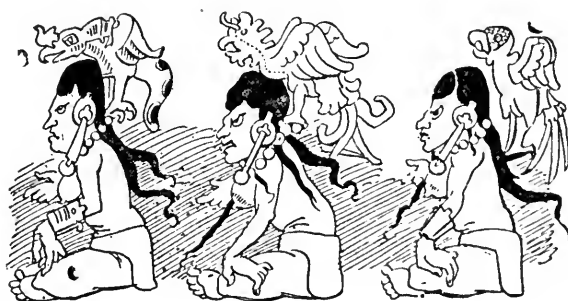
(4.) In Aztec design so vast is the labyrinth of shifting form, so slight the thread of consistency that guides us through it, so cumbersome, whimsical and tasteless, is much of its ornament, that it is no wonder that we are occasionally puzzled, and sometimes defeated in our attempts to identify its objects. The outline for example, may stand for a human leg, a hand, and a human face seen in profile. In some instances we have been unable to name outlines, and guessed only at others. The latter we have withheld from the series illustrating Aztec design, and can conscientiously say of such what Prescott\* would say of the whole,







\* Conquest of Mexico, I, 104.

that "the fantastic forms of hieroglyphic symbols may afford analogies for almost anything."

Fig. 26.



Associated variants of parrot, Dresden Codex.

(5.) The often repeated signs of apparently the same value, so common in Aztec art, must express a repetition of the same idea. Were it otherwise, the ideographs would degenerate into the figures of a pattern. We must acknowledge that repetition is often a law of force. Such expressions as "Hail, hail, hail, Macbeth!" and "Holy, holy, holy, art thou Lord of Hosts!" are strengthenings,—the result of unions of simple factors. After the same method the parrot-head sign  of the Dresden Codex is emphasized by  as though the meaning were:  "Great, great, is this symbol." But in  a zoological sense repetition of similar parts—or, as it is technically termed, "vegetative repetition,"—is an evidence of low organization. An idea when repeated through its symbol is thereby emphasized, but when a form or part of a form not symbolic, is repeated, it remains the same, or exists with impaired vitality. Should this reflection prove true, we may determine the value of certain variants by their positions and number as well as by their form.

Before entering upon the subject of variants, a series of ultimates may be sought for among the higher phases of art-portraiture, the members of which may be termed "types." Thus the following ultimate forms of lion-heads of Asia, Egypt and Europe, are presented as art-types, many of which have never sat as models for lineal abridgments, or radicals.

*The full-faced Lion Head with muzzle lines.* This series is designed to exhibit the style of lion-head marked by pronounced labiate or muzzle lines.

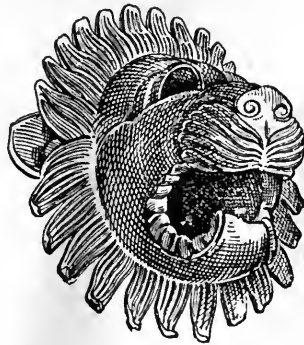
LION WITH MUZZLE LINES.

Fig. 27. (\*)



Roman.

Fig. 28. (†)



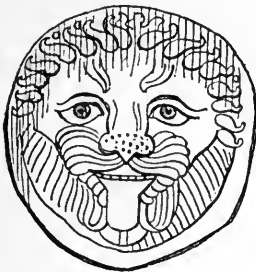
Etruscan.

Fig. 29. (‡)



Roman.

Fig. 30. (§)



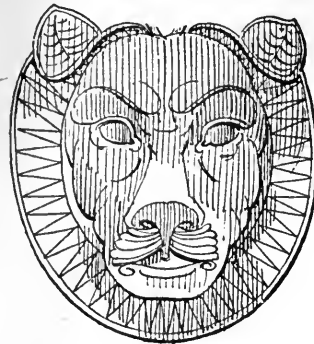
Etruscan.

Fig. 31. (||)



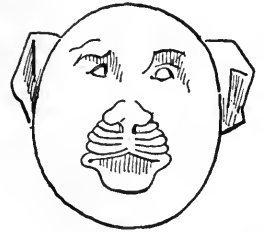
Greek.

Fig. 32. (¶)



Egyptian.

Fig. 33. (\*\*)



Egyptian.

Fig. 34. (‡‡)



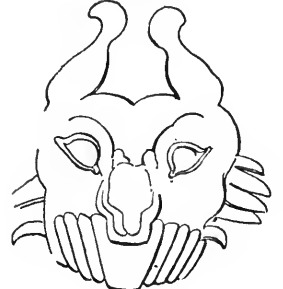
Assyrian.

Fig. 35. (‡‡)



Assyrian.

Fig. 36. (§§)



Persian.

\* From a Roman sarcophagus.

† From an Etruscan bronze at the Campodoglio.

‡ Mus. Borbonico, VIII, tab. 61.

§ L'Italie avant la domination des Romains, M. J. Micali, Paris, 1826, pl. 92, 2.

|| Mus. Borbonico, LXII, fig. 2.

¶ Hirt. Trans. Ber. Acad., 1821, pl. 4, fig. 35.

\*\* Birch Selections of Egyptian Art in British Museum.

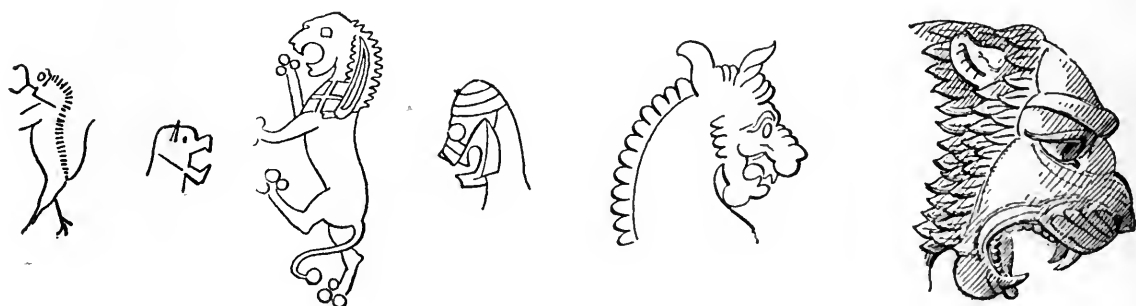
‡‡ Botta, Monuments de Ninive, IV, pl. 151.

‡‡ Botta, Monuments de Ninive, II, pl. 47.

§§ Flandin et Coste, Voyage en Perse, pl. 102.

*The Profile Lion Head.* In a series of profile heads confined to Western Asia, it is probable that Fig. 37 was derived by abridgment from a model such as Fig. 41, or even 42, permitting Fig. 40, an Etruscan form, to come between. The pertinence of an Etruscan outline in a series of this kind, may be doubted by many. Is the resemblance between these heads any less exact than between many figures of Etruscan and Persian, and even Mesopotamian art, as seen in Micali and Lajard?

Fig. 37. (\*) Fig. 38. (†) Fig. 39. (‡) Fig. 40. (§) Fig. 41. (||) Fig. 42. (¶)



In a second series of profile heads selected from Persian and Etrurian sources, we hope that the order of the figures, and the references at the bottom of the page will serve for sufficient explanation. It is highly instructive that the ultimate (Fig. 49) is the source of the abridgment (Fig. 43). At first sight, it would appear absurd to associate a Persian outline with another in Etruria. But a comparison between many figures of Inghrami, Micali and Lajard, must convince the observer that more than a superficial resemblance exist between Persian and Etruscan figures, however, the historian may explain it. And we assume from what we have seen in the lion heads (Figs. 28 and 30), as well as from the series to be presented, that the art-forms of Etruria were moulded upon types which originated in Asia and Egypt.

\* Travels in Georgia, Persia, Armenia, Babylonia, &c., Sir R. K. Porter, Lond., 1821, opp., p. 424.

† Culte de Mithrae, F. Lajard, pl. 37.

‡ Lajard, *l. c.*, pl. 25, fig. 6.

§ Micali, *l. c.*, pl. 24.

|| Rawlinson, *Anc. Mon.*, *l. c.*, III, 334.

¶ Lajard, *l. c.*

Fig. 43. (\*)



Fig. 44. (†)



Fig. 45. (‡)



Fig. 46. (§)



Fig. 47. (||)



Fig. 48. (¶)

Fig. 49. (\*\*)



The transition is from hair-tuft 43 to Fig. 46, and from that to the horn of unicorn-like figures, Fig. 47 to 49.

*The Greek Lion-Head.* It is very evident from the above groupings of lion-heads, both full-faced and profile, that it would be a difficult matter to select any one head from the forms of a given art-fauna and proclaim for it representative features. Thorwaldsen, we are informed by his biographer, M. Theile, in modeling the lion-head for the Lucerne monument, carefully studied the antique form and the modern styles derived thence. (Fig. 50.) In another design of the same animal he as

\* Lajard, *l. c.*, pl. 27.

† Lajard, *l. c.*, pl. 19.

‡ Flandin et Coste, *Voyage en Perse*, Paris, 1844, pl. 69.

§ An. Mon., Rawlinson.

|| Lajard, *l. c.*, pl. 43.

¶ Lajard, *l. c.*, pl. 13.

\*\* Inghrami, *l. c.*, II, pl. 138.

Fig. 50. (\*)



Thorwaldsen's lion, after the antique.

Fig. 51. (†)



Thorwaldsen's lion from nature.

carefully studied the natural model. (Fig. 51.) These two heads, therefore, are very fair examples of a conventionalized and natural art-form. The distinctions presented in the two figures are so great that comment is unnecessary. We allude to the subject to contrast Thorwaldsen's conception of the antique head with that of Ruskin's. (Fig. 52.)

Fig. 52. (‡)



Modern Lion-head.

Fig. 53. (§)



Lion-head, after Caylus.

Fig. 54. (||)



Lion-head, after Hamilton.

This critic claims for Fig. 52 (to condemn it), that it represents a modern conventionalized lion-head treated after the Greek method. It surely belongs to the variety of the lion without muzzle lines which is not the typical Greek head, but rather an aberrant expression not often seen (Fig. 53), and is best marked on the vases—the source perhaps of the “reconstruction,” criticised by Mr. Ruskin.

### THE PALM-TREE.

SECTION II. *The Palm-Tree.* The palm-tree is one of the most conspicuous figures in the art of Western Asia, and the countries bordering upon the Medi-

\* Thorwaldsen and his works, edited by J. M. Theile, Trans. by Sindling, N. Y., 1869, II, pl. 108.

† Ibid, II, pl. 153.

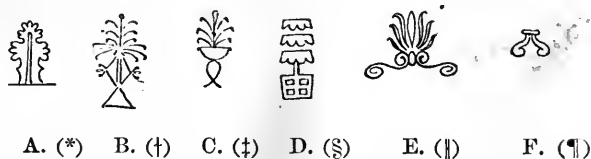
‡ Lectures on Art and Painting. John Ruskin, 1854, pl. 11, fig. 18.

§ Recueil d'Antiq. Egyptienne, Etrusques, Greques, et. Romaines, Caylus, Paris, 1761-67, I, pl. 56.

|| Hamilton, Sir W. A collection of Etruscan, Greek and Roman Antiquities, London, 1797.

terranean Sea. Among the variants we have ventured to assign to this origin, there are at least six, which at first sight have no connection with one another :

Fig. 55.



A. (\*) B. (†) C. (‡) D. (§) E. (||) F. (¶)

(A.) The Sacred Tree of Assyria.

The *first* is seen upon the head-dress of Babylonian figures, and would appear from the following sequence to be a miniature representation of the Assyrian Sacred Tree.

Fig. 56. (\*\*)



Fig. 57. (††)



Fig. 58. (‡‡)

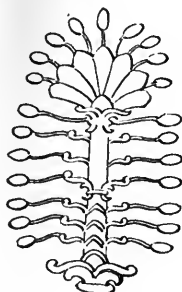
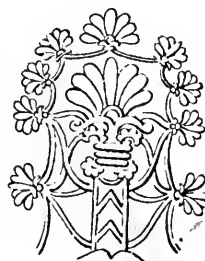


Fig. 59. (§§)



(B.) The Palm-Tree proper.

The *second* is a figure of the entire tree found upon a cylinder and securing for us through two variants, an origin in the conventional palm of Persia.

\* From dress of Babylonian king, Rawlinson, *Five An. Monarchies*, III, 400.

† From Babylonian cylinder, *Sabæan Researches*, John Landseer, Lond. 1823.

‡ Egyptian hieroglyphic "Bunch of Dates," Bunsen, I, 521. This figure has not been faithfully rendered. In the main features, however, it is correct.

§ Persian figure upon coin. Wilson, *Antiquities and Coins of Afghanistan*, pl. 15, f. 23. The central shaft should unite all the transverse pieces. Prof. Lesley believes this to be of Egyptian origin.

|| Greek honeysuckle ornament. Hope's *Ancient Costumes*, I, 72.

¶ Ornament upon Etruscan tablet. Dennis, *Etruria*, I, 52.

\*\*-†† Same as fig. 1, from lower border of the king's dress.

‡‡ From Layard, *l. c.*, Rawlinson, *ibid.*, II, 235.

§§ The Assyrian Sacred Tree, Layard, *Nineveh and its Remains*, II, 233.

Fig. 60. (\*)

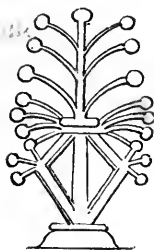


Fig. 61. (†)



Fig. 62. (‡)



(C.) The "Bunch of Dates."



The *third* bears in many respects resemblance to the above figures. It, however, is from an Egyptian source. It stands alone; no forms intervening between it and the Mesopotamian model aid us in its identification. Chronology here comes to our assistance. It is described by Bunsen as the bunch of dates.

(D.) The Greco-Persian Palm.

In the *fourth*, found upon a Persian tomb, we have an ultimate which may have originated in the transverse lines of Fig. 61. Development of this feature of the palm-tree illustration is conspicuously seen in Fig. 64; also of a Persian source,

Fig. 65. (¶)

Fig. 63. (§)



Fig. 64. (||)



acquaintance with which introduces us to the elaborate and characteristic ornament of ancient Persia, Fig. 65, where the model is much disguised by Greek accessories. It is interesting to notice that this development, based as it is upon the acanthus leaf

\* Same as B. Fig. 55 (enlarged).

† Persian palm-tree. Rawlinson, *ibid.*, III, 342. See also Rawlinson I, 433.

‡ Persian palm-tree. Rawlinson, *ibid.*, IV, 322.

§ Wilson, *l. c.*

|| From Persian ornamentation. Travels in Persia, Porter.

¶ *Ibid.*, pl. 62. For the sake of convenience, but one half (the left) of this symmetrical design has been figured.

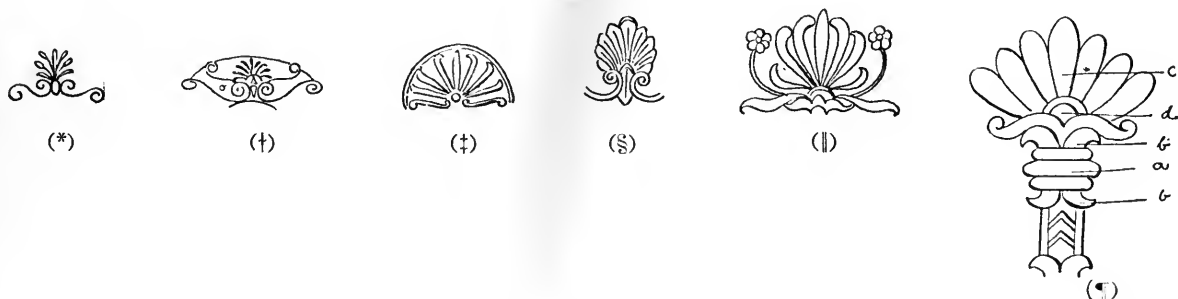


and bud, is here engrafted upon a purely Eastern stock, and yet preserving a curious mimetic relationship with the florid leaf and vine design so common in our own decorations, and which, as is well known, is almost exclusively of acanthian origin.

The remaining ultimates, *fifth* and *sixth*, find their respective models as *portions* only of the conventionalized palm. Thus the objects of Fig. 65 are derivative of the foliage of the Assyrian palm, while those from 65 to 73 inclusive are obtained from the so-called "ram's horn" of the Assyrian Sacred Tree.

(E.) The "Honeysuckle."

Fig. 66.



*a*, transverse bands; *b*, *b*, "ram's horn;" *c*, rays; *d*, base of rays.

The first four of these outlines are examples of the honeysuckle ornament which is so largely represented upon articles of Greek workmanship, and from these copied into later European art. No one design is more frequently seen. Under many graceful modifications we meet with it over our door-ways and upon the cornices of our dwellings and public buildings. It enters into our patterns of woven stuffs and wall papers. It is well nigh the universal basis for symmetrical design. One of the most striking of its modifications is the shell and acorn ornament abundantly used by Michel Angelo, on the ceiling of the Sistine Chapel at Rome.

We are indebted to Layard\*\* for our knowledge of the influence exerted upon Greek design by the Assyrian monuments. According to this writer, the "similarity between the Assyrian and Greek ornament is not accidental. \* \* \* It seems to be proved beyond a question, by the alternation of the lotus or tulip,†† whatever this flower may be, with the honeysuckle. \* \* \* The same ornament occurs in India on a lath erected by Asoka, at Allahabad (about B. C. 250); but whether introduced by the Greeks—which, from the date of the erection of the monument, shortly after the Macedonian invasion, is not improbable—or whether derived from another source, I cannot venture to decide."

\* Ornament on cuirass, Hope's Anc. Cost., I, pl. 72.

† Ibid., I, pl. 75.

‡ Layard, Nineveh and its Remains, II, 231.

§ Ibid., II, 231.

|| Layard, from Allahabad. *l. c.*, 232

¶ Rawlinson, *l. c.*

\*\* Layard, *l. c.*, II, 232.

†† We have ventured to call this caliciform.

(F.) *The "Ram's Horn."* While found together with much that is of Greek origin in Etruria, the honeysuckle variant of the palm is less frequently determined than that of the figure of the ram's horn. The point of greatest constancy here presented is the transverse band uniting a pair of horns which are so arranged that their convexities are opposed. In the model ¶ Fig. 66, this is conspicuous. In Figure 69 a single band is seen, as is also the case in the simple forms, Figures 67 and 68. The upper and lower portions of the horn-like figures are given in the last two of these; but the upper half of the design is absent in Figure 67.

Fig. 67. (\*)



Fig. 68. (†)

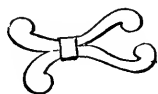


Fig. 69. (‡)



Fig. 70. (§)



Fig. 71. (||)

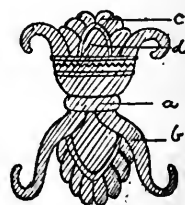


Fig. 72. (¶)

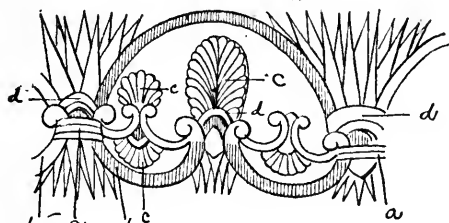


Fig. 73. (\*\*)

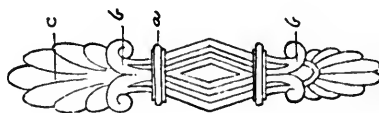
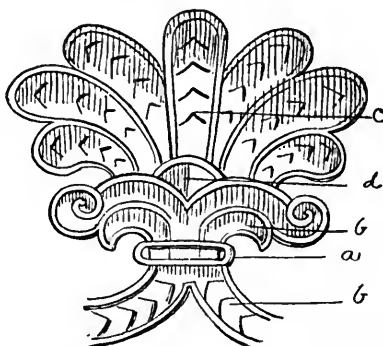


Fig. 74. (††)



Fig. 75. (‡‡)



The lettering of Figs. 68 to 75 to be same as ¶ Fig. 66.

\* Dennis, Etruria, I, 52.

† Dennis, Etruria, I, 52.

‡ Dennis, Etruria, I, 52.

§ Micali, *l. c.*, pl. 73.

|| Micali, *l. c.*, pl. 23.

¶ From ornament found at Praeneste. R. Garrucci, *Archæologia*, XLI, pl. 10, 206.

\*\* Bone spoon found in Isis tomb. Dennis, Etruria, I, 424.

†† Ornament upon the head-dress of lion, found at Praeneste. R. Garrucci, *Archæologia*, LXI, pl. 5, 206.

‡‡ Ibid., with Fig. 21.

Fig. 76.



Figure 76 might also represent the lower half of either this (Fig. 70) or the one following, Figure 71. But here we are forced to remember the shape of the calici-form design found at Allahabad, Fig. 77, more particularly since no connecting band is seen in Figure 76.

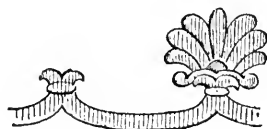
Fig. 77.



Were the Asiatic model ever represented as duplicated above and below a given plane, which would thus serve as a base for both, we would feel inclined to refer Figure 70 to such. The absence of this band is in our judgment sufficient to prevent such reference. Were further defence of the position we have taken necessary, we could refer to the bisected ram's horn at base of Figure 58, which is almost an exact inverted counterpart of ultimate F. Fig. 55.

We conceive that the continuous ornament presenting the palm-tree foliage, so frequently met with in the remains at Nineveh, (Fig. 78,) is composed of the produced crescents of the ram's-horn figure turned upward from the vertical to a more horizontal position, while the upper of the three bands is alone retained.

Fig. 78.



In another variety of this ornament found at the same locality, we find that the fruit branches have been selected to give emphasis to the design. Thus Figure 79

Fig. 79.



is complete without the ram's horn appearing in any guise.

Now it is highly probable, judging from the designs here selected, that the Greeks choose for their continuous ornamentation (Fig. 80) the latter of these,

viz., the fruit branches, while the Etruscans favored the former, viz., the ram's horn. (See especially Figs. 72 and 73.) In the first of these the larger crescents are apparently derived from an Asiatic source, while the smaller would claim for themselves a Greek origin.

Fig. 80.



SECTION III. *The Serpent.* We have abundant evidence that the serpent is an universal object of design with rude people, and a frequent one with advanced races. For consideration of this interesting subject we would refer the reader to the works mentioned below.\* The radicals we have selected have been met with among the monuments of Central America and Peru. The motive which we assign to the artists of these countries for reproducing so frequently the ophidian shapes is easily found in their religion. Prescott† tells us that the serpent was an emblem common in sacred sculpture in Anahuac. The image of one of their deities was remarkable for the "huge folds of a serpent, consisting of pearls and precious stones which coiled round his waist." In the Aztec calendar the serpent typified time.‡ The most common representation of Quetzalcoatl was that of the serpent.

In Peru, in addition to the figure of the serpent being associated with images of the human form as attributes,§ it was at times of votive significance. When unable to procure an animal for sacrifice, such for example as the puma or serpent, the Peruvians offered a golden or silver image of the same.||

We have in these statements sufficient reason for attempting to bring into a series of derivatives a few outlines which we may term *the radicals of the profile serpent-head*.

We find its variants scattered over tropical America in isolated inscriptions, in the florid picture-records, in the yet more obscure so-called hieroglyphic system, as well as discerned among the confusing elaboration of carved images.

\* *The Serpent Symbol*, etc., E. G. Squier, New York, 1851; *Myths of the New World*, Brinton, *l. c.*; *Tree and Serpent Worship*, etc., Jas. Ferguson, Lond., 1868. Many other authorities might be quoted in this connection.

† *Conquest of Mexico*, II, 142.

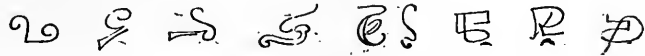
‡ *Ibid.*, I, 92.

§ *Antiquities of Peru*, Rievero, 107.

|| *Conquest of Peru*, Prescott, I, 523.

## THE RADICALS OF THE PROFILE SERPENT-HEAD.

Fig. 81.



A. (\*) B. (†) C. (‡) D. (§) E. (||) F. (¶) G. (\*\*) I. (††)

Radicals of the Serpent-jaw from Aztec and Incarian sources.

Among these nine illustrations which we have selected from the large number apparently of the same significance, we detect considerable dissimilarity. Yet they possess the common feature of presenting two more or less curved lines joined at an angle. Each of the outlines could be written without the pen leaving the paper. The angle is the result of a union between a vertically inclined member to one nearly horizontal. We will endeavor to show (in absence of a chronology, or the nomenclature of the artists themselves) that these signs represent the two main lines of the open jaw of the serpent-head seen in profile, and that they are as near letter-types, as it is impossible to be with figures derived from a protean model.††

Fig. 82. (§§)



Fig. 83. (|||)



Fig. 84. (¶¶)



Fig. 85. (\*\*\*)

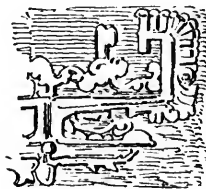


Fig. 86. (†††)



\* Stephens, J. S., Yucatan, etc., 1843.

† Nicaragua, its People, Scenery, Monuments, etc., E. G. Squier, New York, 1852, II, 66.

‡ Ibid., 1852, II, 66.

§ Ibid., II, 66.

||-†† From the Musca Alphabet, Humboldt, Vue de Cordilleras.

†† Figure A of the above series although distinctive it is thought of the Aztec ophidian profile, is a natural curve and is seen elsewhere, in the art of various people, when it is desired to represent the open mouth of an animal. We find the same horizontal line representing the lower jaw joined to a curved upper jaw (the convexity of the curve standing for the fold of the upper lip overlying the tooth-line of the upper jaw) in Europe and Asia. See *Archæologia* XLII, pl. 17, 312, for the head of a panther or lion of the Saxon period.

§§ Incidents of Travel in Central America and Yucatan. Stevens, I, 1843, 309.

||| Kingsborough Coll. (Dresden codex, 3d column.)

¶¶ Kingsborough Coll. (Dupaix.)

\*\*\* From photograph of Palenque cross; see also Stephens, *l. c.*, II, 1842, 345.

††† Kingsborough Coll. (Borgian Codex.)

Fig. 87. (\*)



Fig. 88. (†)



Fig. 89. (‡)



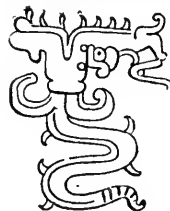
Fig. 90. (§)



(Fig. 91. (||))



(Fig. 92. (¶))



Comparing the above series with the radicals we find that the first is evidently intended for the head of an animal, and that this figure gradually assumes a more snake-like expression until, in Fig. 92, we see an indubitable rattle appendage. That all the signs of Fig. 81 are derived from reduction of similar figures to those just given must of course be probable only. In our judgment it forms a probability that lacks but one degree of proof, namely, that derived from a fixed chronological status. This of course cannot be furnished.

Fig. 93. (\*\*)

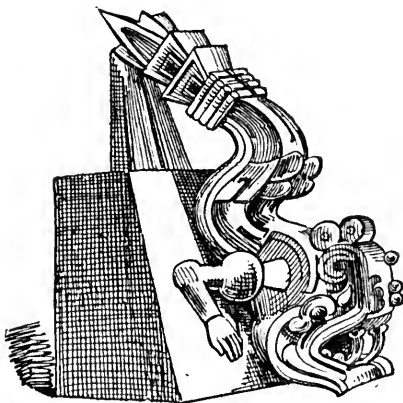


Fig. 94. (††)



\* Kingsborough Coll. (Borgian Codex.) (¹)

† Kingsborough Coll. (Borgian Codex.)

‡ Kingsborough Coll. (Borgian Codex.)


§ Voy. Pittor. et Archæol. dans la Province d'Yucatan, etc. Waldeck, Paris, 1838, pl. 13.

|| From photograph of ruins at Monjas, Uxmal.

¶ Kingsborough Coll. (Dresden Codex, Col. 57).

\*\* Six Months Residence and Travel in Mexico. W. Bullock, London, 1834, pl. 13.

†† Squier, Nicaragua, l. c., 52 (from Zipatero).

(¹) In proof of the Crotalian significance of this form we add the caudal appendage : 

In Figures 93 and 94 (examples of a common variety in Aztec remains), we see the curves of the open jaw traced upon the side of a solid mass. There can be no reasonable objection to the conclusion that there is a close resemblance between Figure 93 of these series and the second of the radicals marked E, or between radical D and Fig. 94.

It is also more than suggestive that the apparently arbitrary design and others

Fig. 95.



found among an embarrassing fullness of illustration in the Borgian Codex (Fig. 95), represents the profile head of the serpent with the mouth partially closed. And may not the following figures have been suggested to a people who have been thoroughly acquainted with the profile lines already given?

Fig. 93. (\*)



Fig. 97. (†)



Fig. 98. (‡)



Fig. 99. (§)

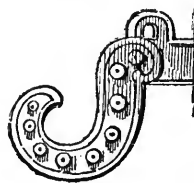


Fig. 100. (||)

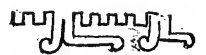
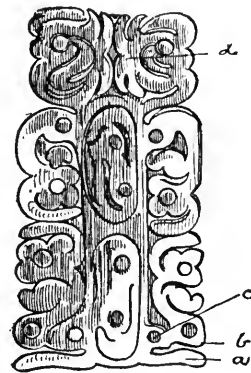


Fig. 101.



Symmetrical Snake Ornament, from Squier's Ancient Mon. of North America.

a, lower jaw ; b, upper jaw ; c, eye ; d, rattle.

\* Kingsborough Coll. (Tellerian Codex.)

† From portion of elaborate full-faced human head, Stephens, I, 1843, 170.

‡ Kingsborough Coll. (Borgian Codex,) p. 7 (human hand).

§ Stephens, *l. c.*, I, 171 (Architectural Ornament).

|| Kingsborough Coll. (Borgian Codex), p. 12 (pattern along a border).

Another serpentine form is seen to be the radical of the following sequence,

Fig. 102.



which may be called the series of the bound serpent. A third form belonging to the same group may possibly be indicated in the coiled serpent, which leads us to the figure found by Squier (Fig. 104) on a rock in Nicaragua,\*

Fig. 104. (††)

Fig. 103. (\*\*)



### THE MAN.

SECTION IV. (A.) *The Head.* If among the forms capable of but a few expressions we find such variety, we may expect to meet in the human face with its increased motility a yet larger number. To understand their analyses, it is necessary to make ourselves familiar with the structures entering into the human face. The "countenance" of popular language answers to the facial region of the anatomist. The skull gives the main boundaries of this region, as well as valuable hints for its subdivision. It is clothed with muscles, which, surrounding to move the eyelids, nostrils and mouth, are conveniently arranged into the palpebral, nasal and oral groups. The main acts of expression pertain to the first and last of these; for the nasal group is composed of insignificant muscles both in form and function. Now it is a noticeable fact that the action of the palpebral muscles is one almost in

\* Bartlett, I, 196. (From a rock carving in the Gila region.)

† Kings. Coll. (Dresden Codex.)

‡ Kings. Coll. (Dresden Codex.)

§ Troano Manuscript.

|| Kings. Coll. (Dresden Codex, Col. 28.)

¶ Troano Manuscript.

\*\* Senate Ex. Doc., 1st series, 31st Congress, No. 64, pl. 35. (Reconnaissance in New Mexico, Texas, etc). Report of Lt. Simpson.

†† Squier's Nicaragua, l. c., I, opposite p. 406.



common with the muscles of the forehead. When the latter muscles contract the brows are raised, and when the palpebral muscles act, the brows descend and move toward the middle line of the face. This act, the result of the depression and adduction of the brows, gives a severe expression to the countenance,—a noble one when moderately pronounced, and to this end employed in the Jove-like heads of Greek art\* (Fig. 105); but when exaggerated, leads to the grotesque, an advantage not neglected in many ancient ornaments and the tragic masks (Fig. 106).

Fig. 105.



Head of Apollo Belvidere.

Fig. 106.



Head from late Roman ornament. (†)

The muscles about the mouth tend chiefly to draw the oral angle from the median line; hence any change, no matter how small at the angle, materially modifies the expression. "Give me a mouth," says Thackeray,‡ "with no special expression, and pop a dash of carmine at each extremity, and there are lips smiling." The inner extremity of the brow and the angle of the mouth may be called the centres of expression. The main face variants, in which these centres of motility have been recognized, are seen grouping themselves into the frowning set and the leering set, either with the mouth closed and the angles slightly elevated, forming "the eternal rictus" of the archaic "Greek" head (Fig. 107), or the lips parted and the teeth displayed, or the lower jaw depressed, with the tongue protruded. The so-called grotesques of Leonardo da Vinci (Fig. 108), and Durer (Fig. 109), appear to us to be experiments in facial motility, both in myology and general proportion. They are mere curiosities in construction. It is interesting to observe from the point of view

\* Wincklemann, *l. c.*, II, 80.

† Mus. Borbonico, XI, tab. 28.

‡ Roundabout Papers, 375.

Fig. 107.



Phoenician Head from Cyprus. De Cesnola. (\*)

we are now erecting, viz., the relations between an inventive and an imitative art, how exceedingly different these scholastic studies are from conventional art-types.

Fig. 108.



Grotesque from Leonardo. (†)

Fig. 109.



Grotesque from Durer. (‡)

The lines of the inferior border of the malar bone also serve as the basis of a series of variants both in Egyptian and Aztec art. In addition to these, we have in Aztec art the full-faced skull as a distinct model from that of the countenance.

In conclusion, we may say that the chief variants of the full-faced countenance are as follows :

The brow lines ; the mouth lines, and the malar or transverse facial lines. §

\* Harper's Mag., Vol. XLV, 195.

† From photograph.

‡ Four Books, etc., on Art Anatomy, Book III, 85. Trans. in French, 1557.

§ TATTOOING. That the object of tattooing is to represent clothing is an idea commonly believed. That the objects employed for this purpose should have been patterns we can readily conceive. We have endeavored in vain to detect a relationship between the lines of tattooed skin and the normal folds and depressions of the face. The nearest approach to it known to us, is the head of the Feejian, figured in Owen's Grammar of Ornament, in which a symmetry of ornamentation has been preserved, suggesting the muscular structure of the face. But this is evidently a coincidence; for had natural lines been copied by the artist, the *wrinkles* would have appeared rather than the unrevealed fleshy masses beneath the skin. Now if this were the case the wrinkles would be placed *transversely* to the line of action of many muscles. We accept with some reservation, the statement of Lubbock (*l. c.*), that the inhabitants of Formosa "impress on their skin various figures of trees, flowers and animals."

We propose to trace in the following order a few of the variants of the face. Many of them that relate to expression are found in the best examples of Greek and Roman art, as well as in a few specimens of Aztec carving.

(a.) THE FULL-FACE.

(1.) *The Gorgoneion*. The radical of this series would appear to have no connection with the figures placed after it; yet we have ventured to hold as the ultimate the figure from which it is the probable abridgment,—the head of Phthah. In the absence of a corroborating prompter in history, these figures would teach us that the Gorgoneion was common to Egypt, Greece and Etruria. The symmetrical curved ornament at the lower portion of Figures 110–112, and the head-dress of Figure 113, are derived from the skin of the head and fore-feet of the lion. Can we go farther and trace from these derivatives the tongue-protruding heads of the Gothic style, or the Buddhistic Sinhas? It is difficult to answer these questions satisfactorily in the absence of all connecting links. More especially since we have no proof that they may not have originated in other countries. The New Zealander\* carves a head with a lolling tongue on his temple column; the Aztecs† have repeated the same figure in stone. See also Fig. 126.

Fig. 110. (§)



Etruscan.

Fig. 114. (\*\*)



Etruscan.

Fig. 111. (§)



Etruscan.

Fig. 115. (††)



Greek.

Fig. 112. (¶)



Greek.

Fig. 116. (††)



Greek.

Fig. 113. (¶)



Etruscan.

Fig. 117. (§§)



Egyptian (Phthah).

\* Natural History of Man, Wood, II, 180.

† Waldeck, *l. c.*; Squier, *l. c.*, I, 204 and 313; figure in centre of Mexican Zodiac.

‡ Micali, *l. c.*, pl. 46, Fig. 24. § Micali, *l. c.*, pl. 102, Fig. 10. ¶ Hamilton, *Vases, l. c.*, III, 60.

¶ Micali, *l. c.*, pl. 22. \*\* Dennis, *Etruria, l. c.*, II, 244. †† Hope's *Ancient Costumes*, 225.

‡‡ Handbook of Archaeology, Westropp, 126. The tongue has been by an oversight omitted.

§§ Hirt. *Trans. Berl. Acad.*, 1821, 115.

It is certain, however, that the Gorgoneion is very ancient. We suspect that the remarkable head from Nebbi Yunas (Fig. 118), may have had an origin from the Egyptian Phthah, the tongue being the only essential feature absent. A comparison of the Greek face (Fig. 112) with that of the Assyrian relic, points strongly to the conclusion that it has been wrought under the same influence that gave shape to the others; but the absence of the protruding tongue prevents us from giving it a place in the series.

Fig. 118. (\*)



Assyrian.

(2.) *The Transverse Facial Line.* With regard to the series of the transverse facial line we present the following:

Types of Full-faced Human Head, with Transverse Facial Lines.

Fig. 119. (†)



Etruscan.

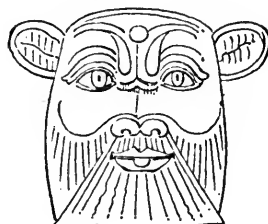
Fig. 120. (‡)



Etruscan.

From Mediterranean design.

Fig. 121. (§)



Egyptian.

\* Layard, *l. c.*, pl. 95, Fig. 3 and 4. The treatment of the eye by numbers of concentric lines and an exaggerated internal canthus, is notably like the method of drawing this organ on Greek vessels.

† Hope's *Ant. Cost.* (from Caylus, VI, I, 44.) The repetition of the malar line is here conspicuous, see p. 290 of this memoir.

‡ Miceli, *l. c.*, pl. 41, Fig. 4.

§ Birch, *l. c.*, in British Museum.

Fig. 122. (\*)

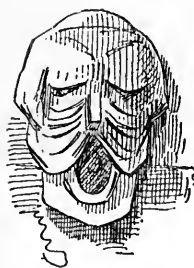


Fig. 123. (†)

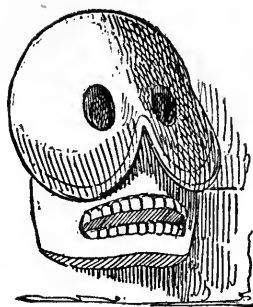


Fig. 124. (‡)



Fig. 125. (§)



From Aztec design.

The radical-like head (Fig. 119) succeeds to the fantastic head (Fig. 120), and both would appear to be derivatives of the Egyptian head (Fig. 121). The Aztec architectural (glyptic) radical (Fig. 122) is the ultimate abridgment of the full-faced human skull of which Fig. 125 is the fullest development. There remains no doubt that in this series the line of the lower border of the malar bones has been the line characterizing the variants of the Aztec skull as a similar line will describe the most prominent feature of the Egypto-Etruscan heads.

(3.) *The Radical of the Full-face.* But it is in the lower stages of art where we must seek for the best examples of face radicals. Large number of primal forms are found etched upon rocks, and have never passed beyond rude attempts at realism. Of these we do not now speak. But rather of the most persistent lines seen in an abridgment of a more elaborate model, itself an ultimate of unknown transitions from the primal shape. Thus in the comparatively modern attempt to depict the human countenance in metal, we may have face radicals rapidly eliminated.



The outline here presented we claim to be the most constant form in the following sequence of figures obtained from Celtic metal ornamentation (Fig. 126).

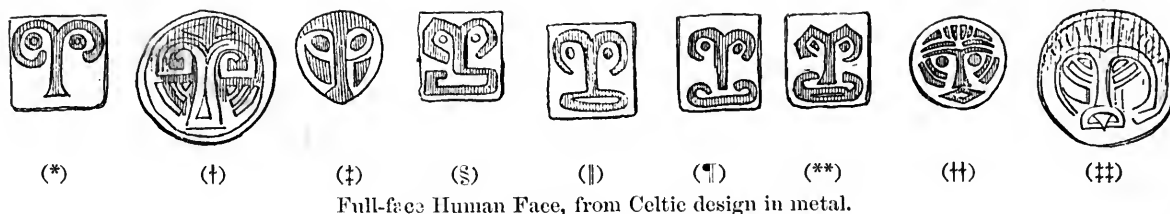
\* Views of An. Mon. in Central America, etc., 1844. F. Catherwood, pl. 9.

† Ibid., pl. 9.

‡ Kingsborough Coll. (Dupaix.)

§ Stephens, *l. c.* (Capan), I, 135, 1841. The author supposes this to be a monkey's skull.

Fig. 126.



Full-face Human Face, from Celtic design in metal.

We have in such an arrangement the united brows forming the upper member of the radical, the vertical member of which is the nose.



In the same manner we may accept the outline of the above figure as one of the Buddhistic face radicals, judging from the following series of figures (Fig. 127), from East Indian coins. In this less perfect illustration, the brow line is separated from the nose, and the cruciform outline given is the result of changes in the nostrils.



The figures  are all nose radicals, as well as  Can it be doubted that they have had their origin in the same natural model? Does not this simple contrast between the constant brow and nose radical of the Saxon series, and the varying separation of the brow and nose lines in the Indian series, as well as the variable shape of the nose in the latter group, indicate widely remote tendencies of art-growth in these two races?

Fig. 127.



Human figures of East Indian design, in metal.

\* From a fibula found at Fairford, C. R. Smith, *Archæologia*, XXXIV, pl. 10, 82.

† Found in a cemetery of the Anglo-Saxon Period. J. Y. Akerman, *Ibid.*, XXXVII, pl. 3, 97.

‡-† Same as \*.

†† Figure upon a fibula found in Berkshire, *Ibid.*, XIX, 352.

§§ *Asiatic Researches*, 1832, XVII, pl. 4, Fig. 89, H. H. Wilson.

|| Wilson's *Afghanistan*, pl. 25, 26.

¶¶ *Ibid.*, pl. 25, 26.

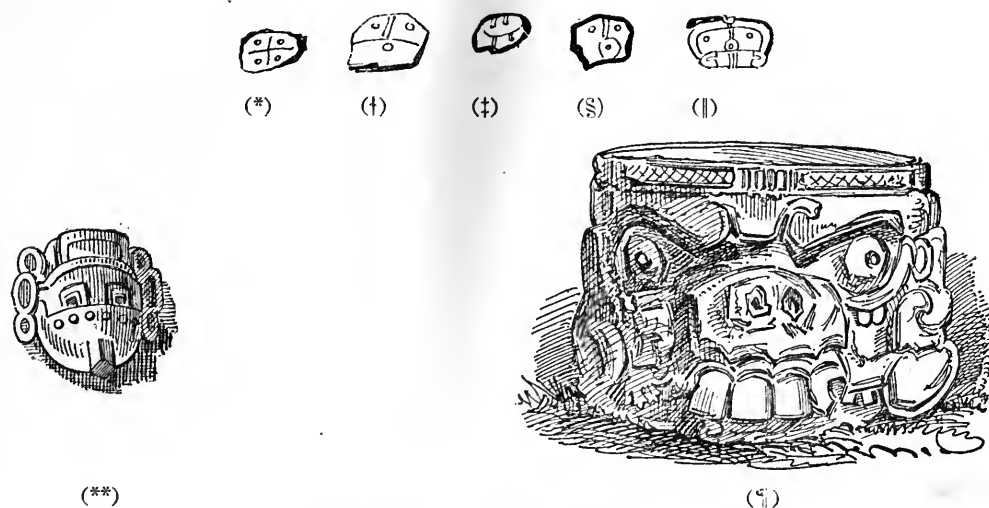
\*\*\* *Ibid.*, pl. 25, 26.

††† *Ibid.*, pl. 24, 26.

In looking through the radicals of the full-faced head in Aztec art and the sources tributary to it, we find a number of rudimentary outlines, many of which have had doubtless strictly limited significances attached to them. The majority of these we have selected from the Dresden Codex,—so remarkable among Aztec remains for the conciseness of outline, and relative absence of non-essential elements. The outline as seen in this Codex is proposed (+) as the radical of the front view of the human face. It is essentially the same as the Asian radical enclosed in a circle.

We present the following as a demonstration :

Fig. 128.



Full-faced skull radicals from Aztec design.

May we not assert, assuming the correctness of the above sequence, that these are but varieties of the full-faced symbol?

The radicals to be next described are those dependent upon the union of others. These are comprehensive types and are of unusual interest.



We are informed by Dr. Brinton†† that many of the designs of the American races have reference to the cardinal points. We hope to show that the cardinal points are often represented by four full faces, and that each face is represented by a well-defined radical. It might be expected that the radical already given, (+) would be the basis of this more complex design. Such, however, does not appear from the sequence here given.

\*—|| Kingsborough Coll. (Dresden Codex).

\*\* Stephen, Yucatan, I, Frontispiece (Capan).

† Catherwood, *l. c.*

†† Myths of the New World, *l. c.*

In the Landa (*l. c.*) alphabet there is a comprehensive figure  signifying "space." In the Algonquin Song of the Creation\* there is seen the following symbols: 1st.  which is interpreted, "First being, Omnipotent;"


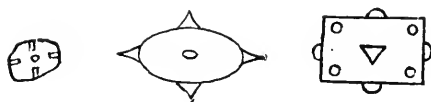
2d.  "All beings are friends." Arranging these in order, we have:

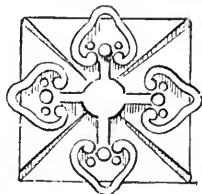
Fig. 129.



representing the radicals of the same composite type.

Now Dupaix figures a design attractive from its symmetry (Fig. 130):

Fig. 130. (†)



We cannot fail to recognize here a figure suggestive of the cardinal points, and the resemblance borne by each of the four component parts to Figure 131 is so striking

Fig. 131. (‡)



ing that we are led to conclude that the Fig. 130 is a composition, resulting from the arbitrary use of face-radicals, alike to those of Fig. 131.

This point having been gained we are encouraged in believing that the radical

\*Traditions of the Algonquins (pamphlet), E. G. Squier.

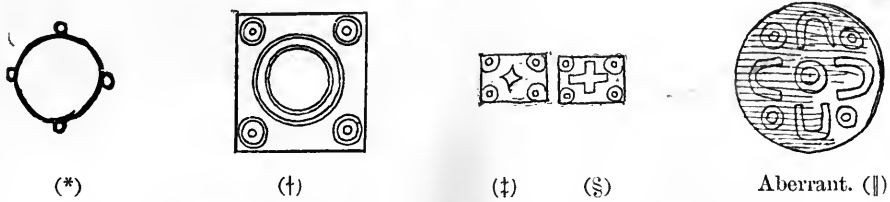
†Kings. Coll. (Dupaix.)

‡Ibid. (Dresden Codex.) Many others similar to this could be given from North American design. See particularly Dresden Codex, and a rock near the Susquehanna river, Pennsylvania.



may be significant of the cardinal points, and to have a history something like the ensuing:

Figs. 133.



Composites suggesting the cardinal points, from Aztec design.

These are by no means rare signs in the Dresden Codex.

The use of the full-face radical as the head of the human figure, as seen in a column of the Codex (see Fig. 133) is almost conclusive as to its real significance.

Fig. 133. (¶)



We thus see that the full-faced Aztec radical may be either a Greek cross without eye and mouth dots; the latter, without the former, or both, or with the presence of the cross with dots placed in radii from its re-entering angles.

In illustration of the architectural radical being the result of a process different from one leading to a hieratic character, we present two representations of what we have interpreted to be full-face human head from the Aztec temples:

Fig. 134. (\*\*)

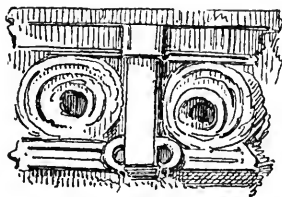
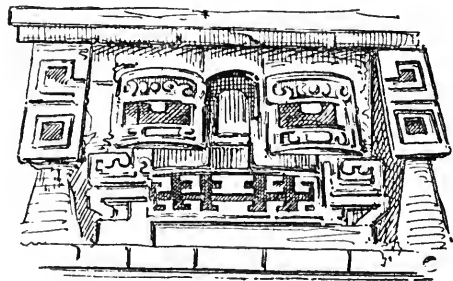


Fig. 135. (††)



Full-faced human countenance in stone, from Aztec design.

\* From squatting figure of a man in Kings. Coll. (Dresden Codex.)

† Ibid (Dresden Codex.)

¶ Kings. Coll. (Dresden Codex.)

§ Ibid.

\*\* Catherwood, *l. c.*

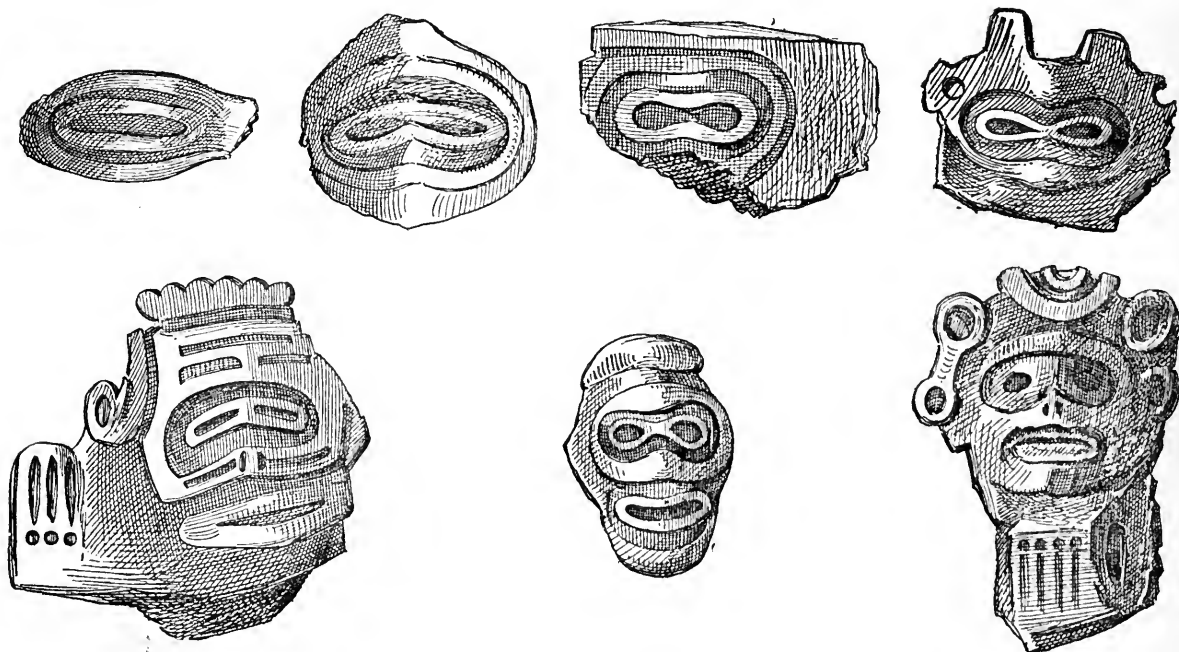
† Kings. Coll. (Dupaix.)

|| Schoolcraft, *l. c.* VI, 576.

†† Ibid *l. c.*

We give here an example (Fig. 136) of a series of variants in pottery. The specimens were obtained at San Domingo, by Mr. William M. Gabb, late geologist to the San Domingo Government. The originals are in the National Museum at Washington. Our drawings were kindly made by Mr. Gabb. The first we accept as the radical of a full-faced human head, and proceed as follows:

Fig. 136.



Ceramic variants from San Domingo design.

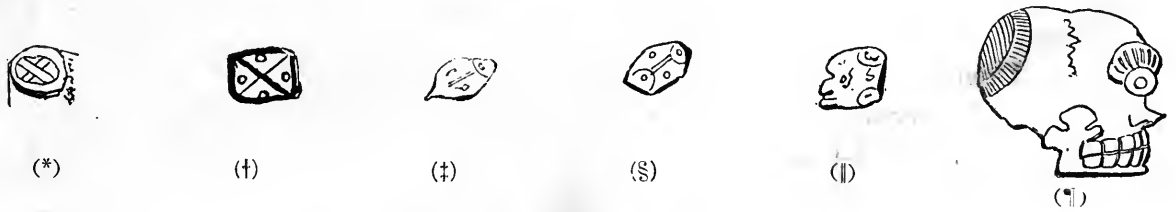
## (b.) THE PROFILE.

(b.) *The Profile.* The profile human head has an entirely distinct history from the full-faced. We see some races very fond of reproducing it, as for example the Egyptians with whom the front view in drawings was phenomenally rare. The Assyrians also repeated the countenance in profile. With the North American Indians the profile is looked upon with contempt. Father Garnier of the Huron Mission, in writing home for supplies, says of certain pictures he needed, "they must be full face, and they must look directly at the beholder."\* Mr. Catlin informs us that the Indians consider a profile as representing but "half a man." The Aztecs evidently entertained very different notions concerning the profile, and we find a fair sprinkling of its variants throughout their art. In marked contrast to the Aztec full-faced radical the profile is rarely or never inverted or otherwise changed in position. As in the case of the full-face we find the richest sequence of profiles in the Dresden Codex.

The radical (X) is here presented, and the probable sequence constructed thus:

\* Parkman, Jesuits in North America.

Fig. 137.



Human Profiles from Aztec design.

Fig. 138.






The above is a short series selected from the Troano manuscript.

As an instance of the difficulty of the study of variants we select the following (Fig. 139) from the Dresden Codex, where the profile-face passes into a semblance of the full-face.

Fig. 139.



Or as is occasionally seen in the Troano manuscript, the oblique line of the profile passes into horizontally one. These are examples we take it of simple carelessness in drawing. Yet we nowhere find so violent a change as  The outlines  and  never merge.

In reviewing the human face and its variants we can readily see why the full face should be represented by the Greek cross and figures growing out of it, and the profile by the cross of St. Andrew's, viz., by the repetition of the essential lines of both full-face and profile.

In the first place it is not the *crossing* of lines which is as essential as their positions. A vertical and a horizontal line are equally distinctive of a face whether crossed

\* Kings. Coll. (Dresden Codex.)

† Ibid.

‡ Ibid.

§ From Dresden Codex.

|| Kings. Coll. (Dresden Codex.)

¶ Ibid. (Borgian Codex.)

\*\* Kings. Coll. (Dresden Codex.)

or not, as we have represented. So the oblique line is suggestive of the profile, although it may be isolated. But the vertical line of the nose needs but to be produced to cross the horizontal line of the teeth to give a radical notion of the most conspicuous facial lines; and thus serving as a model to the profile, which probably came later, and produced from the single natural line of the profile an artificial complement crossing it at the centre.

That the line drawn from the top of the occiput to the mouth is a true line of the profile can readily be seen by producing the corner of the mouth. The natural direction of the angle, as we have already seen, is upward and backward. Archaic types tend to emphasize this elevation, and primitive art to notably exaggerate it. Witness, for example, such variants as the following from the Troano Manuscript: (Fig. 140.)


Fig. 140.



(\*)



(†)

Let us suppose that in the first outline of this group the line had been extended to the crown we would have had the  of the Landa Alphabet and the Dresden Codex.

The architectural profile head, composed for the most part of peripheral exaggerations, is given with the following figures:

Fig. 141. (‡)



Fig. 142. (§)



Fig. 143. (||)

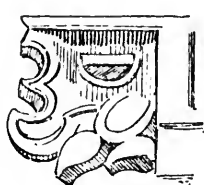


Fig. 144. (¶)



Fig. 145. (\*\*)



Fig. 146. (††)



Human profiles from Aztec (glyptic) design.

\* Troano Manuscript.

† Ibid.

‡ Troano Manuscript, pl. 23.

§ From Casa del Cober Nador, Catherwood, *l. c.*

|| Ibid.

¶ Stephens, Yucatan, 1849, II, 292.

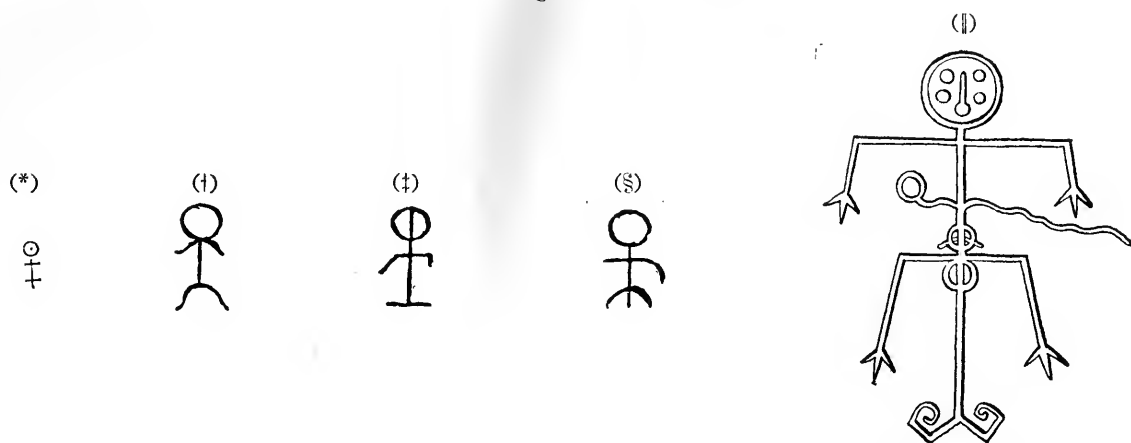
\*\*-†† Kingsborough Coll. (Dupaix.)

## (B.) THE RADICAL OF MAN.

As a cosmopolitan form the human figure presents features which are everywhere recognizable. One of its most ancient expressions is a linear vertical ending superiorly, either simply or by a rounded knob, and joined below the knob and at the lower end of the vertical, by two transverse bars completes the outline.

Let us compare a few of these from widely remote localities :

Fig. 147.



Are not these sufficiently alike to lead the observer to conclude that a kind of sequence in time might be traced from the Asiatic forms to the American? It is certainly curious that the figure from Pallas is a constant, invariable shape, which is often repeated on the rocks of Siberia, while that of the South American figure is equally distinctive of those found on the rocks of the valley of the Amazon.¶

Among other anthropoid radicals figured by Spix, is the following (Fig. 148), marked by the curved extremities of the vertical line as in Fig. 147.

\* Lesley, *l. c.*, see also Sylvester's *Paleographie*, pl. 1, showing characters of ancient Chinese dialect of similar construction.

† *Reise aus Siberien zurück an die Wolga in 1873*. Pallas, Th. III, Zw. Buch, pl. 6.

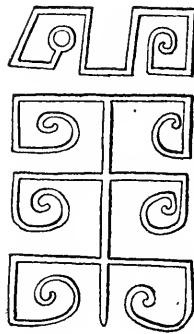
‡ Whipple, *l. c.*, from rock at Arch Spring, near Zuni, New Mexico.

§ Bartlett, J. R., *Personal Narrative of Expl. and Incidents in Texas, New Mexico, California, Sonora, etc.*, New York, 1854. *Sculptured rocks on the Gila*, pl. 1, Vol. II, p. 196.

¶ *Reise in Brasilien*. Spix und von Martius—Atlas. *Sculpturen auf Felsen am Rio Lapurà*.

¶ See also *Journal of the Anthropological Institute*, London, III, 114, pl. 10, J. Whitefield. In this paper a number of linear signs are given from Ceará, Brazil.

Fig. 148.

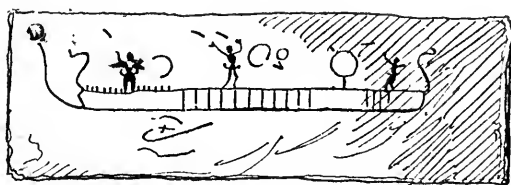


Without the aid of the one it would have been very difficult if not impossible to have determined the significance of the other. But with it and that of the variant of the human face, the determination becomes easy.

Of radicals in which the inferior extremities are marked by oblique lines, we have a large number of illustrations. The vertical may or may not be produced below the lower pair of divergent lines.

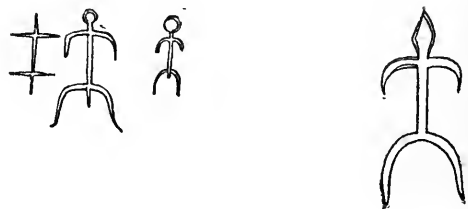
The apparent likeness announced in the above, forces us to ask ourselves the following question: Is the resemblance between outlines, selected from rocks scattered from Norway to South America, merely accidental? There is a drawing in Morillet from a rock in Norway\* (Fig. 149); another group in Siberia† (Fig. 150); a third,

Fig. 149. (\*)



Sculpture on rock in Norway.

Fig. 150. (†)



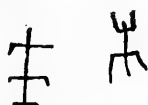
belonging to rocks of our Western plains‡ (Fig. 151); a fourth series is seen in the

\* Morillet, *l. c.*, V, 535.

† Pallas, *Reise*, *l. c.*

‡ See also *Journal of the Anthropological Institute*, London, III, 114, pl. 10, J. Whitehead. In this paper a number of linear signs are given from Ceará, Brazil.

Fig. 151.



(\*)

(†)

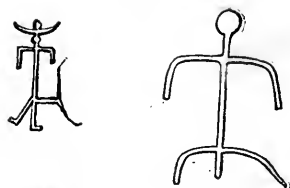
Fig. 152.



(‡)

(§)

Fig. 153.




(||)



(¶)

Aztec manuscript (Fig. 152); and a fifth, upon the rocks of Nicaragua and South America (Fig. 153).

It is decided at first sight that these resemblances are nothing but the natural results of simplifying the easily-copied human form—and that rude artists could with difficulty avoid producing figures which would closely resemble one another. Thus the Asiatic, European and American tribes must have produced results such as those represented above. The lamentable instance of the Abbe Domenick, who mistook a German school-boy's copy-book for a collection of pictures by North American Indians, to say nothing of the more magnificent follies of Brasseur de Bourbourg, are calculated to warn the student against any attempt at generalization even from genuine material. We, however, doubt whether any other than a South American aborigine could have told what Fig. 148, was intended to represent, much less could we expect an Indian, or a school-boy to draw such a form for *man*. The very shape of such an outline is proof of its being an ultimate modification from a pre-existing form. Its presence at once suggests *experience* as a necessity to its existence. No child could possibly conceive of it—and no adult trace it unless he had become acquainted with the traditions and conventionalities of which it is the result.

Again, such a radical as  is seen on a photograph of a rock in the Western United States to represent man, as can be shown in the following sequence (Fig. 154):

\* Report of the Indian Tribes of New Mexico, Lt. A. W. Whipple. From rock at Ojo Pescado. Lt. Whipple in speaking of this says, "the figure might be pronounced to be centuries old."

† Simpson's Report, *l. c.* pl. 25, fig. 2. See also in this connection a photograph of a rock opposite Parawan, Utah, in series published by U. S. Government (Wheeler's Expedition, 1872). The sign  from Painter Creek, New Mexico, figured by Whipple, *loc. cit.*, has the lower part, recalling the figure from  Brazil (see Spix and von Martius). It is described as being very old and much effaced. May not the transverse lines have been obliterated in time?

‡ Kingsborough Coll. (Dresden Codex.)

§ Troano Manuscript, Paris, 1869, pl. 35. This sign is represented in the manuscript as inverted.

|| Squier, Nicaragua and her People, II, pl. 1, 24.

¶ From original drawings by A. Fendler, in library of Acad. of Natural Sciences of Phila. The rocks are near San Esteban, S. A. (See Smithsonian Rep., 1857, 218.)

Fig. 154.



(\*)

Now if the last of the series be man, it is highly probable that the preceding three have been derived from it, and that the first is its radical. If it be so, the following Figure 155, will be composed of two anthropoid outlines on either side of a central object.

Fig. 155. (†)



Squier.

Let us take this object of Fig. 155 and endeavor to fix its value.

Fig. 156.



Fig. 157. (†)



Fig. 158. (§)



Figures 157 and 158 are probably representations of man, and we are led to believe that Fig. 156 and the central portion of Fig. 155 have the same value. We have already seen the probable bearing of the cross marking within these two figures.

Assuming the correctness of the conclusion that the figure is anthropoid, we have to explain the connection between it and the two inclined figures on either side.

\* Simpson, *l. c.*

† Squier, *Nicaragua, l. c.*

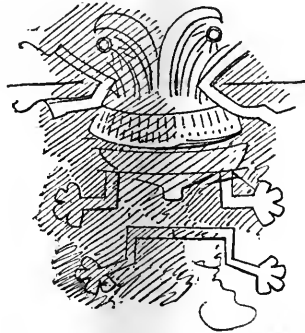
‡ Ibid. *l. c.*

§ Spix, und v. Martius, *l. c.*



This may be done, we think, by fixing the concrete symbols representing, it is thought, the cardinal points. We would place the figure in the same category with the symbols there figured, and present in the same connection such forms as Figure 159, interpreting the side pieces as human faces with chins directed to the side of the full-faced countenance: \*

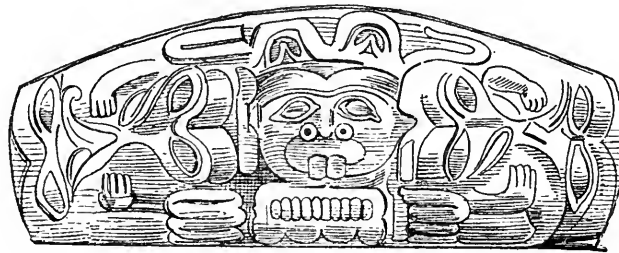
Fig. 159.



Anthropoid outline with symmetrical face-radicals, of Aztec design.

Could any of the above lines be accidental? Could any of them have been forgot by the dishonest, or imitated by novices? Or, could any school-bred scrawler, boy or man, have made them? May we not place in the same connection this piece (Fig. 160) of Haidah (Babine) carving?† In speaking of this, Mr. Wilson

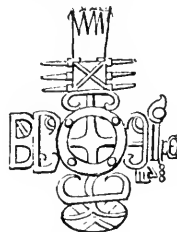
Fig. 160.



Full-face human countenance with complex lateral face radicals, of Haidah design.

aptly remarks: "I was struck with a certain resemblance to the peculiar style of ancient Mexican and still more of Central American art."

Fig. 161. (‡)



Symmetrical composite of Aztec design, showing an arrangement of full-face and profile radicals.

\* Squier, *l. c.*, I, 406. † Prehistoric Man, Daniel Wilson, Lond., 1862, II, 21. ‡ Humboldt, *Vue de Cordilleras*.

Fig. 162.

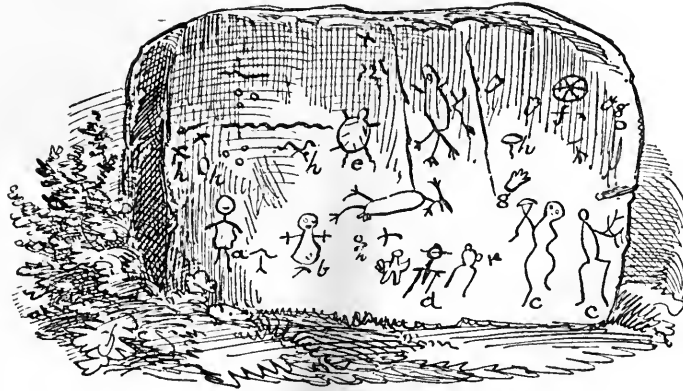


Algonquin sign of man.

The above outlines (Fig. 162) are copied from an authentic Algonquin song, figured in the pamphlet already noticed, by Mr. Squier, by whom they are termed "*mnemonic symbols*." Mr. Squier, who is an eminent authority, believes the figures trustworthy. He states (page 7), "that with a view of leaving no means unemployed to ascertain its (the manuscript's) true value, I submitted it without explanation to an educated Indian Chief (Kah-ge-ga-gah-bowh), George Copway, who unhesitatingly pronounced it authentic, in respect not only to the original signs and accompanying explanations in the Delaware dialect, but also in the general ideas and conceptions which it embodies. \* \* \* I feel I am not obtruding the coinage of a curious idler, nor an apocryphal record, but presenting matter deserving of attention, and of important bearings upon many interesting questions connected with the history of our aboriginal nations."

There can be no doubt, therefore, that these figures represent the Algonquin method of representing man. In no one of them do we recognize the linear radical already considered, nor any outline which would be liable by abridgment to run into it. When we remember the fact that the song is entitled *The Creation*, the figures employed in illustrating it were probably of fixed value and of considerable antiquity. Mr. Schoolcraft informs us that the Indian picture-characters were, among the Ojibways, "taught to the young as carefully as our alphabet." We have no reason to suppose but that they have preserved their present appearance for a long time. Is it assuming too much from our premises to suggest that the outline *a* (Fig. 163) is an Algonquin sign of man, and that *c* is an imperfect form of the same? If this be conceded and internal evidence given that the drawings were made at about the same time, may we not call the inscription Algonquin, and that the signs have some relation to Fig. 162?

Fig. 163.



An Algonquin Rock-carving.\*

- a*—Algonquin sign of man.
- b*—Anthropoid (?).
- c*—Anthropoid of the type-figured.
- d*—An unfinished, or an effaced figure.
- e*—Turtle.
- g*—Hand.
- h*—Unknown.

Fig. 164.



(1)

If such be granted the above sign (Fig. 164) from a rock in Kansas will be placed in the same group. The entire absence of Aztec-like signs in such a series of pictographs and inscriptions is suggestive.

The same cannot be said of some other inscriptions, as for example the Parowan inscription in Utah. Here amid signs suggestive of influence which the Aztec people, or the unknown South American tribes had in common, appear others such as Fig.

Fig. 165.



165, which so intimately resembles the genuine Algonquin, that we can have no doubt of their identity. Here we have, we may say, a modern savage making

\* Squier's Ancient Monuments, Smithsonian. Cont., vol. I, 298.

† Indian Inscription Rock at Indian Cave, on Mulberry Creek, Kansas. (From photograph, by A. Gordon, Washington, D. C.)

his mark among the ancient signs that attracted his attention, as a modern tourist might scratch his name upon a slab of Egyptian hieroglyphics.

This marking of new signs over and among older ones must always remain a confusing element to the student of inscriptions. Man is inherently a scrawler and something among his attempts at artistic outlines must be attributed to that same desire which marks certain uncultured persons who cannot resist the tendency to carve rude figures, or write their name at noted localities.

In the Dresden Codex we have a sequence of the squatting human figure (Fig. 166) unlike anything yet seen.

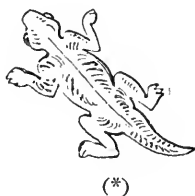
Fig. 166.





Squatting Anthropoids, of Aztec design.

The difficulties attending the study of the human figure are very great. We will present two of the more prominent of these. What is to prevent, for example, some of the outlines marked by the produced vertical axis representing a tailed quadruped? (Fig. 167.)

Fig. 167.



(†)

This is not a little puzzling, particularly since we are informed of the value attached to the reptilian batrachian forms in Anahuac chronology. While acknowledging the suggestiveness of the produced vertical, we nevertheless find the figures of quadrupeds to be such as  of Pallas. Thus proving the absence of quadrupedal type comparable to an  anthropoid type, and also that although it is not impossible that the produced vertical line may at times mean "tail," it is not *probable* that it meant anything of the kind.

\* Kingborough Coll. (Codex Vaticensis.)

† Bollaert, *l. c.*

‡ Pallas, *l. c.*

Fig. 168. (\*)



This figure (Fig. 168) from Bartlett is here given to show the radical of man, as we have determined it, in the act of driving an animal.

In some outlines from the Gila region, by the same authority we have a man-like figure with produced vertical associated with one in which it is absent. If, as may be suggested, that the line has a sexual significance, its absence would indicate the companion figures to represent female forms.

Another great difficulty, determining the man-radical is that in countries, where the inhabitants have been under Christian influence, the vertical and transverse lines have originated in crude imitations of the Latin cross. Such influence undoubtedly exists in the design of our Indians, especially among those who have been brought in association with Jesuits. The following signs from Jonathan's Cave, near Fife, Scotland, are certainly very suggestive of the series on p. 55, and we are only deterred from so placing them from the other evidences in the same locality of modern influences.

Fig. 169. (†)



As has already been observed, the position of accessory signs more than their shape determine their significance.

Of the sign



(‡)

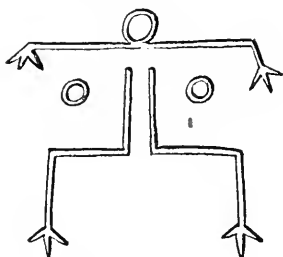
it would be difficult to prove that it was not a face, and the symmetrical dots eyes, except by comparison with the following from a rock in the same country (Fig. 170):

\* Bartlett, *l. c.*, I, 206.

† Simpson, J. Y., *Archaic sculpturing of cups, circles, etc.*, Edinburgh, 1867.

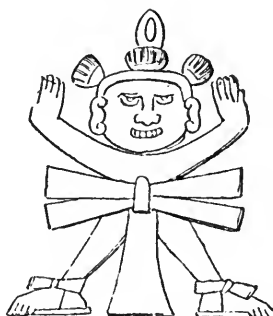
‡ Near Colonia Touar, A. Fendler, *l. c.*

Fig. 170. (\*)



when it is at once shown that the entire figure is represented, and the symmetrical markings are not eyes but mammæ.

Fig. 171.



A curious figure in the Borgia Codex, showing the produced vertical and transverse lines of the ancient radical of man.

SECTION V. *Other variants from the Dresden Codex and other sources, of North American design.*

Fig. 172.



The Breastplate.

Fig. 173.



The Lizard.

\* From Rock on Rio Lapuná, Spix and v. Martius, *l. c.*

Fig. 174.



An unknown animal.

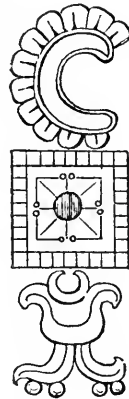
Fig. 175.



(\*)



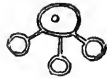
(†)



(‡)

The Ear-ring.

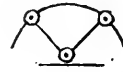
Fig. 176.



(§)



(||)



(¶)

"The Three Balls."

SECTION VI. *Difficulties met with in analyzing the Life-form.* We have now given a number of examples of the plan proposed for the study of variants, sufficient we hope for the demonstration of the object in view. The reader has doubtless observed that the fields from which the figures in the different series have been gleaned have varying degrees of probability. In some, as in those from the Dresden Codex, we find all the outlines secured from a single manuscript. In others the radical may be found in the manuscript, but the intermediate-forms are scattered in the sculpture and rock-pictures of Central America. In another group again these shapes are sought for on the rocks of Utah—the carvings of the Frazer

\* Ribeirao (Bolivia), Harp. Mag., Vol. XLIV, 502.

† Kings. Coll. (Dupaix).

‡ Stephens, *l. c.*

§ From U. S. photograph, rock opposite Parowan, Utah. Wheeler's Expedition.

|| Jones, *Southern Antiquities*, 378.

¶ Squier, *Traditions of Algonquins and Song of Creation*.

River natives—or even, as in the first mentioned human-figure-series, from Asia and Europe. We have in every instance simply placed the objects in the order they appear to make for themselves, indifferent to the localities in which the objects have been found. In many instances, as with Central American design, the sequence of the outlines are promptly confirmed by our knowledge of chronology. In others this chronology has not been made out. With such we leave the forms to speak for themselves. We certainly are not anxious to establish any theory, and have purposely placed all material which would appear to point to any definite lines of migration in the form of queries.

As may be readily seen the entire study is fraught with difficulty. Particularly is this the case in the field of Central American design. Fancy is here continually dulling the ear of judgment; and the student, as he turns the pages of the Kingsborough volumes, is more often tempted to weave little fictions about the gaudy “grotesques” before him, than remain content to be guided by the truth that so evidently underlies them. We have endeavored to keep free from all weakness of this kind, and to leave to others the interpretation of the grinning skeletons, the priestly sacrifices, the murderous assaults, the mysterious pot-boilings, that so plentifully bestrew the Codices.

A difficulty of another kind is met with in the variants of art-forms of older and more cultured races than the American. The higher the art and more concrete the style the less satisfactory becomes the interpretation of variants. Cardinal Wiseman\* has justly said: “Great caution should be used in judging characteristic form from works belonging to the higher department of art. No nation long possesses the art of representation, without forming to itself an ideal, abstractive type; and the caution to be used should necessarily be doubled, where the art and their types are borrowed.” The fact that scarcely a single art-form in the entire range of Indo-Germanic art—nay even within that larger area of Mesopotamia and Egypt—can be quoted, which does not exhibit in its history the traces of mutual influence, is sometimes sufficient to cast a doubt upon the arrangement of form in a supposed succession, even when the chronicles of the nations yielding them have been fixed.

Let us, for example, suppose that a cylinder has been found at Babylon, which is determined to belong to the late Babylonian empire. Now the Assyrian influence upon the art of this empire is conceded, and we should seek for the source of the conventionalisms upon the cylinder to their associated variants among the alabasters of Khorsabad or Nimroud. Could we stop here the search would be easy. But we are informed by Rawlinson that Assyria itself is a northern branch of the

\* Science and Revealed Religion, I, 251.

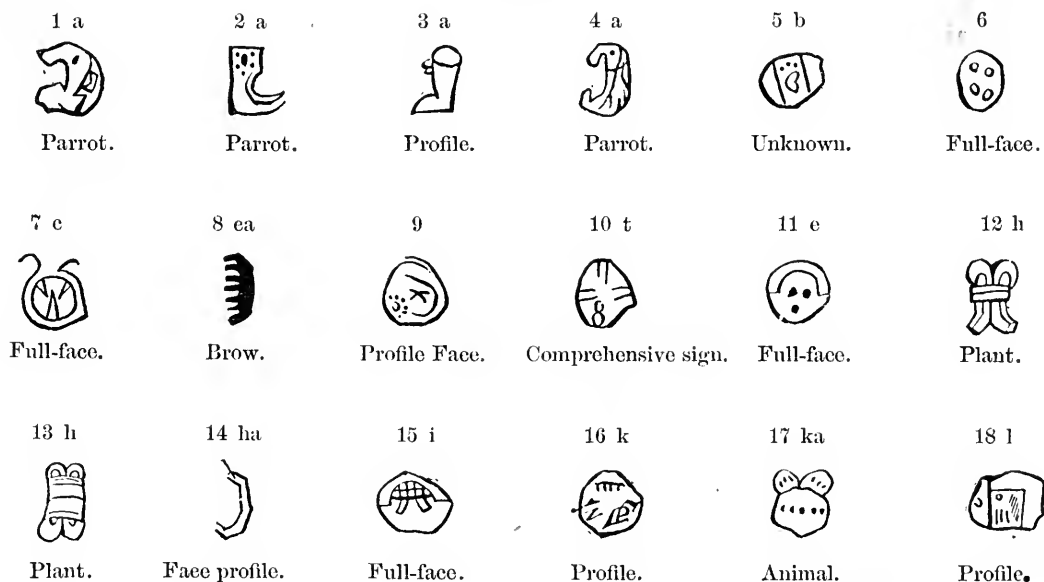


Chaldean stock, and although its art is in a great measure indigenous, its germs were imported from the ancient Babylon, and in some instances have simply returned to that source after undergoing changes due to their prolonged expatriation. If in addition to this the influence exerted by Egyptian form upon the later Assyrian figures be acknowledged, it makes the task of arranging in a chronological sequence a series of Mesopotamian variants an exceedingly difficult one. We think that the internal evidence furnished by the objects themselves is a much easier and in the end as satisfactory a guide.

That archæologists have *not* studied primitive art-form by this internal evidence, or, as a naturalist would express it, by seeking for a standard of grouping by comparisons of the actual forms, can be at once seen by quoting a few examples.

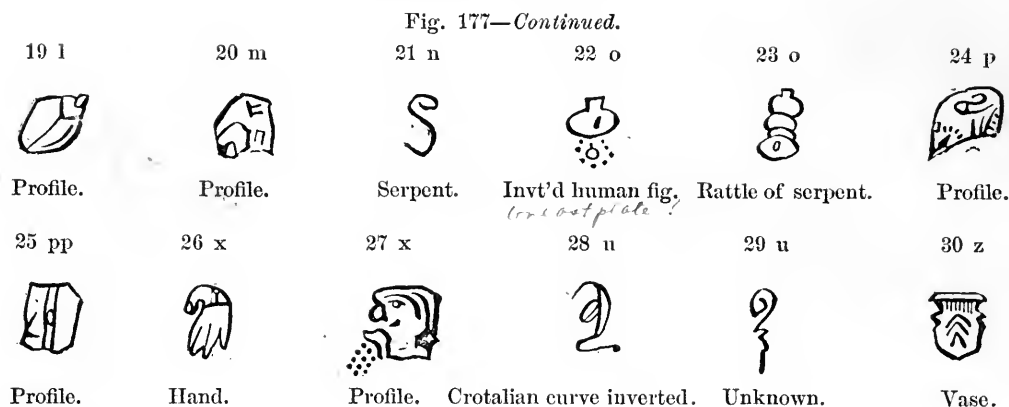
The first we propose mentioning is the attempted interpretation of the Landa Alphabet. Dr. D. G. Brinton, in an interesting pamphlet entitled "The Ancient Phonetic Alphabet of Yucatan,"\* has printed this alphabet which, as we are informed by Dr. Brinton, "was unearthed in a library in Madrid—that of the Royal Academy of History," by the Abbé Brasseur de Bourbourg. It was contained in an unpublished description of Yucatan, composed by Diego de Landa, the first bishop of the country. This alphabet is given below (Fig. 177) with indications of the objects by ourselves.†

Fig. 177.



\* New York, 1870, J. Sabin & Son.

† It is necessary to mention that we had not seen the Landa alphabet until this essay had been nearly completed.



According to this interpretation, out of the thirty figures composing the alphabet,

18 are from portions or combinations of portions of the human frame, viz., Nos. 3, 6, 7, 8, 9, 10, 11, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 27.

3 are from birds, viz., Nos. 1, 2, 4.

2 from serpents, viz., Nos. 21, 23.

1 is from unknown animal, 17.

2 are from plants, viz., 12, 13.

1 is a vase, 30.

3 are from unknown objects, viz., 2, 5, 29.

30

According to Dr. Brinton, *l. c.*, the meaning of the objects of this alphabet should be something as follows :

a. Nos. 1, 2, and 4 are representatives of the heads of some animals ; No. 2 being evidently the head of a bird, with a long curved beak, probably a species of parrot. No. 3 has been supposed to represent a leg or a boat of some kind, but is probably also a rude figure of a head.

b. Both these letters are supposed to represent a path or way bearing the marks of foot prints indicated by the small figures inside the circle.

c. This letter \* \* \* \* is imagined to represent a mouth displaying sharp teeth.

ca. Is explained as the jaw of an animal thickly set with teeth ; but a careful examination of its variations leads to the belief that it is a representation of an eyelash.

cu. This has never been identified.

t. Signifies space, the four marks leading toward the centre, representing the four cardinal points.

e. Probably a front view of the human face, surmounted by the hair, the dots marking the eyes, nose and mouth.

h. Nos. 12 and 13, variations of the same, represents a joint of bamboo. No. 14 represents a flowing stream around some objects.

*i.* No satisfactory analysis has yet been offered of this letter. It seems formed after the analogy of *c*.

*k, ku.* The *k* is beyond doubt derived from a head seen in profile. The upper figure within the circle is the closed eye with its lashes (compare No. 8); that below on the right is the ear (compare No. 28); that on the left is the mouth. The *ku* is supposed to be a drawing of the sacred "medicine bag."

*l.* Neither of these have been resolved.

*m.* This also is the figure of a head. It is distinguished from the *k* from the eye being open, from the *p* by the absence of dots around the mouth.

*n.* Possibly the figure of a serpent.

*o.* Variations of the same, of uncertain origin.

*p, pp.* Again the face in profile.

*x.* The figure is easily recognized as the human hand, the second as a face in profile emitting breath from the mouth.

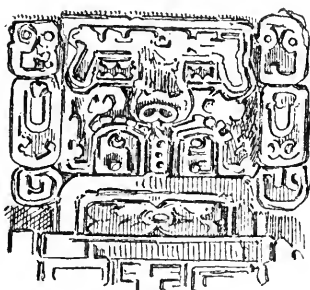
*u.* The first sign represents the ear, the second is of uncertain derivation.

*z.* This seems to be a vase of some kind.

We think we can fairly claim to have improved upon the above identifications; how much, we must leave to others to decide.

For another example we will take that of the Palenque cross. We have already indicated that the ornament on the ends of the horizontal bar of the cross are profile rattlesnake heads. The object (Fig. 178) (evidently of animal origin) upon which rests the vertical bar, has been called by Dr. Brinton\* a rattlesnake head. Our comparisons lead us, however, to conclude that the object is not a rattlesnake head but a full-faced human skull. With this opinion, Dr. Brinton informs us he now concurs.

Fig. 178.

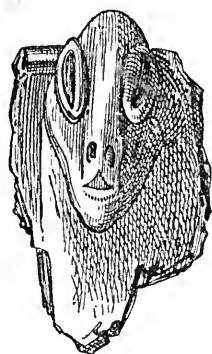


"Full-face" rattlesnake head, from Aztec design.

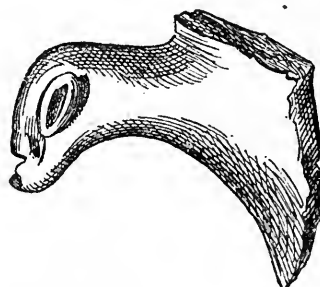
\* Myth of the New World, *l. c.*

In Mr. Gabb's collection of fragments of San Domingo pottery already mentioned, occurs the following :

Fig. 179.



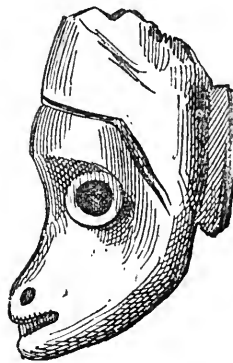
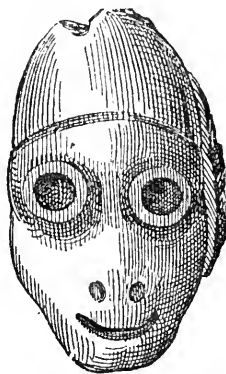
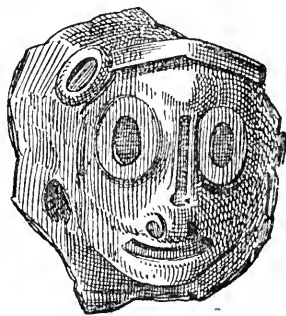
Front.



Profile.

This has been denominated by Mr. G. and others, a "bird head." We, however, conclude from associated fragments that it was not a bird head but a variant of a monkey head, thus:\*

Fig. 180.

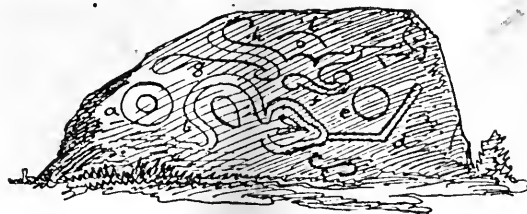


#### SECTION VII. *Method of studying Rock Inscriptions and Pictographs.* Applying

\* For rather free identification of Polynesian forms, see the hieroglyphics of Easter Island, Journal Anthropological Institute of London, III, 370, pl. 20.

the conclusion we have attempted to educe that before naming an object of primitive art, it is necessary to *prove* its identity by intelligent comparison, rather than to *guess* at it, we submit a few specimens of rock carvings, and propose to name their several outlines.

Fig. 181.



Inscription at Zipatero, Nicaragua.\*

*a.* Is composed of a pair of circles, one enclosed in the other. We have mentioned on p. 2 our reasons for doubting the exact identification of this and analogous signs as the one at *e*. They may be representations of the innumerable roundish natural objects.

*b.* However, is much more definite. Referring to the variants, these are observed to be like a pair of brows; the enclosed objects probably answering to eyes.

*c.* Is probably serpentine.

*d.* Unknown.

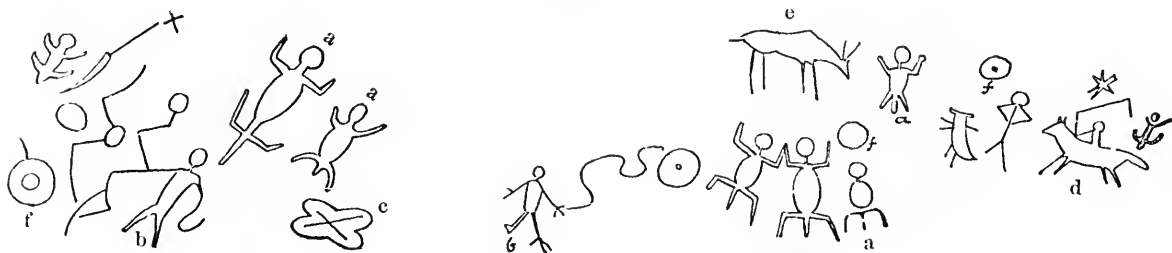
*f.* The modified crotalian curve.

*h.* Forehead ornament.

*i.* Unknown, probably an ornamentation about an eye.

*j.* A variant of the crotalian curve.

Fig. 182.



Inscription in New Mexico. (Gila Region.)†

*a.* Ancient sign of man. (Turanian distribution?)

*b.* More modern sign of man.

\* Squier, Nicaragua, II, 60.

† Bartlett, *l. c.*, II, 216.

*c.* Probably derived by imitation by some nomad who has seen the sign of human profile on an Aztec monument.

*d.* Modern sign of quadruped, mounted by man.

*e.* Quadruped sign.

*f.* Unknown.

Fig. 183.



An inscription showing examples of the ancient anthropoid sign. \*

A knowledge of Central American design has rendered the task easy of proving that the markings (Fig. 184) had been made by some one under the influence of the art of the region in which they were discovered, and we have no hesitation in naming it Aztec.

Fig. 184.



Aztec Inscription. (†)

*a.* Profile crotalian jaw curve.

*b.* Upper member of a variant of same.

*c.* Closed variant of the same.

*d.* Probably a bifid tongue protruding from a *Crotalus* head.

*e.* Unknown.

*f.* Same as *b.*

*g.* Simplified crotalian curves.

\* Emory's Report, 1848, p. 90. (Near Gila River.)

† Stephens, *l. c.*, 1849.

h. Rattles of rattlesnakes. The letter is placed between two figures of the same value.

i. Unknown.

j. Unknown.

l. Mouth with teeth.

m. Human foot with rattlesnake—rattle ornament as anklet.

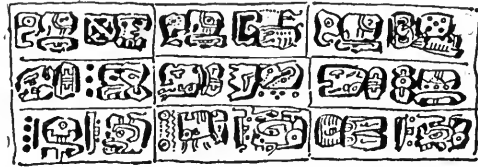
n. Serpentine curve.

o. Unknown symmetrical design.

Such are some of the conclusions to be derived from the study of the life-form in art! We pause in the midst of an endless theme, with the mind thronged with strange shapes that arrange themselves into groups of imperfectly-defined limits.

As we acquaint ourselves with these attempts of man to record his thoughts in carvings and painted images, we are partakers of the pleasures of the naturalist. Man in establishing fashions of love-making and house-building is an object of the same sort of interest as the bird or the bee. The method of study adopted in each case should be the same, however we may be influenced by importance of the results thereby obtained.

Fig. 185.



Specimen of the characters of the Dresden Codex.

#### ERRATA.

Fig. 2, p. 7, is most probably the *Odontophorus* of Tschudi.

For Mephistopholes on p. 20, read Mephistopheles.

For Thackaray, p. 22, read Thackeray.

For Fig. 25, p. 22, read 25a.

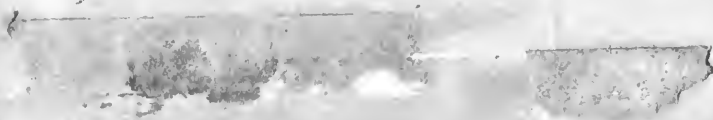
For *figures* on twelfth line, p. 24, read *fingers*.

For Paleneque, p. 37, read Palenque.

For *to* on fifth line, p. 37, read *and*.

For *impossible*, ninth line, p. 37, read *possible*.

The illustrations of this Memoir have been executed by the photo-electrotype process, by Messrs. F. A. Wenderoth & Co., of Philadelphia, from drawings by Mr. Hermann Faber.



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